FLORIDA COMPUTER NEWS

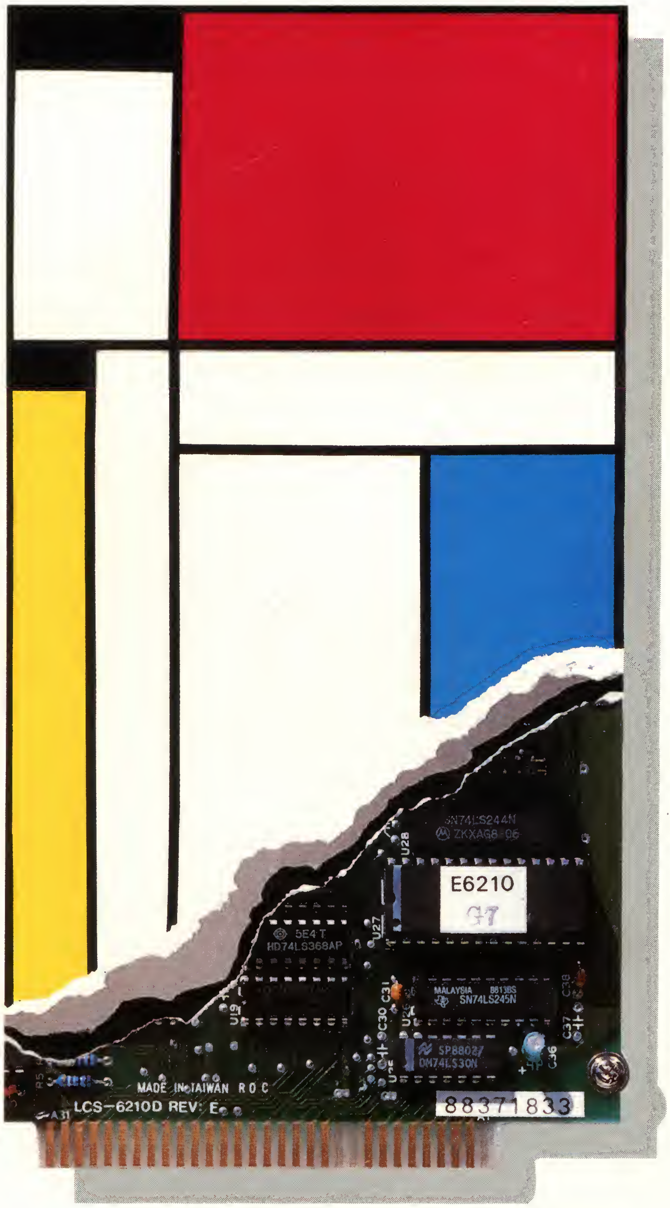
SERVING FLORIDA, THE CARIBBEAN AND THE AMERICAS • NOVEMBER 1989 • $2.50

ENGLISH / ESPAÑOL

TRADE / MARKET UPDATE

SOFTWARE IN ANY LANGUAGE

MIAMI SCHOOLS WIRED FOR LEARNING



TEST DRIVING APPLE'S NEW LAPTOP

SENATOR BOB GRAHAM ON CBI II

TWO FEATURES ON EDUCATION

INTERNATIONAL TRADE LEADS

FLORIDA COMPUTER NEWS

NOVEMBER 1989
VOLUME 1 NUMBER TWO



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What does it take to make education a priority? *...page 28*

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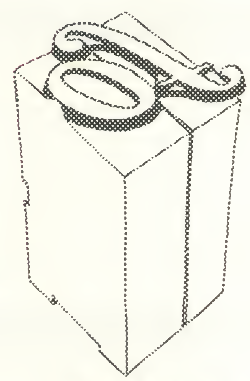
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PostScript going south... Adobe plans Font Folio for Latin America *...page 8*

COVER

After Mondrian encountered Cubism in Paris in 1910, he did away with the constraints of form and focused on pure composition in his neo-plasticism, *a revolution within a revolution. Concept by Richard Herbst, art by Barbara Blumberg and James Richard.*

Florida Computer News

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MAILBOX

I can't like it...

To the Editor:

Your first issue of Florida Computer News filled me with great excitement.

Seven years ago when I was working as a translator at Harza Engineering Company in Chicago, your **Desktop Publishing Glossary** would have been extremely useful to me. In the process of translating contracts, specifications and correspondence I consulted many a dictionary and many an engineer to arrive at an accurate, acceptable Spanish translation of a computer term.

However, I would take issue with your translator. On page 23, "Desktop Publishing" is translated as *"Editorial de Escritorio"*. This strikes me as a literal and awkward translation. *"Autoedicion"* would be better.

Another suggestion: Perhaps you could incorporate some cartoons and/or pnemonic illustrations? You know the old adage, "a picture is worth a thousand (ten thousand?) words".

I look forward to your second issue.
Matilde Batista-Ballee,
Miami

Desktop Publishing is a metaphor referring to publishing that originates from a desktop PC and a laser printer, not merely personal production of an edition. As Roger Jeanty points out in Crossing the International Data Line, *the origin of a translated term often depends on geographic conditions. A hard disk is so named because it contrasts to a floppy, hence the translation* disco duro. *Fixed disk may be more common in Europe and the Orient where literal textual translations are the rule for manuals and literature, but most of us speak idiomatic versions of our languages. Wanna fight?*

We welcome any linguistic suggestions to our text because the results are still out on computer terminology.

We are the world...

To the Editor:

Much has been written and more will be written about the Seniors, the Elders, the older generation and their contribution to America.

But what of the young, the Juniors, the coming generation? All we see on TV and read in newspapers has to do with drugs, rock music, teen pregnancies and the irresponsible acts of a minority of photogenic moments on the screen or in the tabloids.

Wake up, America! The future is upon you and is passing you by. Our values are shaped by a slavish devotion to whatever will sell the product—either directly through a commercial pitch or indirectly through subterfuge and innuendo.

Our young are castigated, derided, accused, when they should be encouraged, praised and paraded before the world. Nowhere in the long history of mankind has it ever been shown that negativity begat positive results.

So let's give the kids credit for searching for new goals and new means of reach-

ing them rather than running them down for not doing things the old "right" way—our way. Some "right way"!

W. Franklin
Plantation

Yo! Columbus...

To the Editor:

Congragulations on rediscrovering the Americas. Everything, it seems, is shrouded in a cloak of European sterility: from art and music to education and technology. Florida not only functions as a commercial center for our hemisphere, it can be a true Alexandria to the Americas, as long as we remember to value our neighbors and their cultural heritages. The true coin of the realm is education.

K. Beeman
Los Angeles

Fax your heart out...

To the Editor:

Your Fax Modem article was illuminating. I use one of them every day and the power truly is in the software's ability to make a tiny box appear to be a full scale Fax machine. There is an innacuracy, though. After printing a Fax file to disk with the STF or any other Macintosh Fax modem, it is not necessary for a Fax device to be selected by the Chooser desk accessory to send a Fax at a later date. The spooled file will automatically be sent as long as the Fax modem is connected and on.

Sheldon Burnside
Orlando

Correct. The Chooser is used only for printing the original spool file to disk.

Alien Nation

To the Editor:

You say that there already exists Spanish language software and that Aldus, for example, has over a dozen translations of its famous PageMaker. We have a graphics studio in Hialeah. All of us speak Spanish, most of our clients are Spanish speaking, and most of the work goes out in Spanish. Our art director is from Argentina and he has made it quite clear that he would rather be working in a Spanish language program than constantly having to review the Aldus manual and a Spanish/English dictionary, which, incidentally, doesn't have much on desktop publishing.

Why can't we get Spanish language versions of Word and PageMaker and other software that you talk about?

Jaime Martinez
Action Graphics, Miami

All the major software publishers have invested heavily in retail Latin American operations. They protect those distributors and dealers by keeping competing retail products from being shipped from the U.S. In some countries this is mandatory.

New products shipped outside of authorized dealer/distributor channels are termed "gray market" and pirated versions of these products are "black market." The gray market cuts out local dealers and comes without product support. The black market is absolutely indefensible.

Quark is considering distributing a Spanish version of Xpress in the U.S. for professionals in the Hispanic communities, but they must weigh this against the implied liabilities of supplying a gray market. Adobe faces even more of a "Sophie's choice." Their fonts are not copy-protected but they can't afford to ignore so vast a market.

Address your letters to: Editor, Florida Computer News, P.O. Box 01-5817, Miami, FL 33101. *Letters may be edited for clarity.*

Florida Computer News

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REFLECTIONS IN A GOLDEN EYE

by Richard Herbst

As everyone in the solar system by now knows, South Florida is the land of opportunity, an electroluminiscent hurricane of growth, new business, building and international trade. The front counter of this economic steroid farm is Miami, and for those of us who believe that pictures of the earth sent back from space are genuine, this city provides a strong taste of the 21st century. It is a place controlled by international, not regional interests. National boundaries are tax collection points and not interfaces between spheres of cultural influence. The real forces of international trade transcend politics and are returning commerce to more natural channels. The future looks bright for South Florida, and in no industry are the possibilities as sharply defined as in the computer industry. But is Florida going to be the next Silicon Valley, or just the industrial park of the 21st century?

Growth projections for Florida's next ten years are astounding. They are based on trends that are well under way, but the rest of the hemisphere is already in motion and doesn't intend to wait. The Sunshine State has everything needed to rival California in power, economy and productivity. Energy requirements are low, tax laws are favorable, labor is affordable, cost of living is reasonable, air and sea transportation are growing to meet future needs, and the state has a decent and growing highway system. So what ain't we got? With the lone exception of the University of Central Florida, (it's near DisneyWorld) we ain't got no colleges or universities worth talking about, or at least that can offer doctoral degree programs in computer and communications sciences and engineering. Without these, high tech companies are having very serious second thoughts about relocating.

To be sure, our major cities have community colleges which offer practical courses in use of microcomputers. That provides business and industry with clerks. The University of Miami, University of Central Florida in Orlando and University of Florida

REFLECCIONES EN OJOS DORADOS

Como todos en el hemisferio saben, el Sur de Florida es la tierra de oportunidad, un ciclón electroluminiscente de crecimiento, nuevos negocios, construcciones y comercio internacional. Miami es el punto principal en todo el cuadro y para aquéllos que se impresionan con fotografías de la tierra tomada por satélites, han de darse cuenta de que esta ciudad realmente tiene un enfoque del siglo 21. Es un lugar controlado por los intereses internacionales y no regionales. Las fronteras de esta ciudad llegan en realidad hasta donde se cobran los impuestos y no las interfaces entre las esferas de la influencia cultural. Las fuerzas reales del comercio internacional superan la política y están regresando el comercio a las vías naturales. El futuro se presenta con brillo para el Sur de Florida y no existen posibilidades tan marcadamente definidas en ninguna industria como las que ofrece la industria de la computadora. Pero, ¿se convertirá la Florida en el próximo Silicon Valley o meramente un parque industrial del siglo 21?

Las proyecciones de crecimiento para Florida en la próxima década son pasmantes. Estas se basan en tendencias bien encaminadas tomando en cuenta que el resto del hemisferio está en actividad y no intenta esperar. Este estado cuenta con lo necesario para rivalizar a California en poder, economía y productividad. Los requisitos de energía son bajos, se favorecen las leyes de impuestos, la mano de obra es costeable, el costo de la vida es razonable, la transportación aérea y marítima están creciendo para suplir las necesidades que se avecinan y el estado cuenta con un sistema de autopistas decente. ¿Qué no tenemos? Con la única excepción de la Universidad Central de Florida (situado cerca de DisneyWorld) no tenemos instituciones y universidades que valgan la pena mencionar, o que al menos ofrezcan programas de grado en las ciencias de computadora y comunicación o de ingeniería. Sin estos, las empresas de alta tecnología piensan dos veces antes de decidir mudarse en nuestra área.

Para asegurarse, nuestras ciudades principales tienen escuelas comunitarias las cuales ofrecen cursos prácticos en uso de microcomputadoras

in Gainsville offer degrees in computer science. UCF in fact has one of the most advanced laser labs in the country. But where does a Boca Raton based IBM engineer go for graduate studies in communications engineering, Georgia Tech? If he can't get what he wants at UCF, he's out of luck. *We need schools!*

Without degree programs, schools can't attract students, grants for research or professors to develop research programs. And without research and graduate level degree candidates, Florida can't offer the manpower that California, Texas or even Georgia can. High tech companies can't afford to send employees on sabbatical, and it's hard to attract out of state students, much less pay for their relocation. If a real-world education budget is out of Florida's reach, a high-tech economy is out of the question.

The state has to tender some offers to established universities and make it attractive to build extensions of these schools if Florida is going to be able to support the industry that is headed this way. Florida's tide is approaching flood and if we don't take it we will still become a powerful commerce center, but we will miss the opportunity to lead and simply be a vast service center.

II

The headlines are explicit: Japan holds more paper than the United States. That's an interesting position in a global community where having the upper hand financially lets you make domestic policy. There's not much point in decrying the increasing quantity and steadily increasing quality of consumer products being traded to the U.S. for its equity—it's more a commentary on our national character than an indictment against so-called unfair trading practices by Japan where, rightfully, the word unfair is never used in business.

But there are some cracks in the hull of the U.S.S. America that can and should be fixed. Although we enjoy a trade surplus in computer equipment all over the world, this is something that has happened more as a result of our being able to go into production quickly from advanced research stages and make new technology available. Where the Japanese have traditionally made entry has been through established technology neatly avoiding research and development costs and plugging directly into established internationally accepted markets.

proveyendo así personal para los negocios e industrias. La Universidad de Miami, la Universidad Central de Florida en Orlando, y la Universidad de Florida en Gainesville ofrecen programas de grado en las ciencias de computación. La Universidad Central de Florida, de hecho, cuenta con uno de los laboratorios de láser más avanzados del país. Nos preguntamos, ¿dónde va un ingeniero de la IBM para obtener su licenciatura en ingeniería de comunicaciones? ¿A Georgia Tech? Si no puede obtener lo que necesita en UCF, entonces se da cuenta que está sin suerte.

Sin los programas de grado, las escuelas no pueden atraer a los estudiantes, ni obtener fondos para investigaciones, y tampoco atraen a los profesores que desarrollan programas de investigación. Y sin los candidatos de nivel de licenciados, quienes podrían realizar las investigaciones, la Florida no puede ofrecer la mano de obra que ofrecen California, Texas y Georgia. Las empresas de alta tecnología no pueden patrocinar el envío de empleados a cursillos breves, y resulta difícil atraer estudiantes de otros estados y mucho menos pagar por su relocalización. Si no existe un presupuesto significativo para la educación en la Florida, una economía de alta tecnología resulta fuera del caso.

El estado tiene que hacer ofertas a algunas universidades establecidas para que éstas consideren la construcción de extensiones de dichas escuelas en esta región, es la única manera en que la Florida podrá suplir a las industrias que se avecinan. La marea comercial de la Florida está llegando al punto de inundación y si no aprovechamos esta oportunidad siempre seremos un centro comercial de influencia, pero perderíamos la oportunidad de ser los líderes y simplemente seremos un vasto centro de servicios.

II

Los titulares son explícitos: Japón mantiene más papel que los Estados Unidos. Esa es una posición interesante en una comunidad global donde el que tiene la ventaja financiera hace la política doméstica desde adentro. No tiene objetividad el censurar la cantidad creciente y la constante mejoría de calidad de los productos de orden básicos que se comercian hacia los Estados Unidos por el interés de acciones, más que todo es un comentario sobre nuestro carácter nacional y no un juicio de lo que se llama práctica comercial injusta por parte del Japón,

If a real-world education budget is out of Florida's reach, a high-tech economy is out of the question.

Sin un presupuesto amplio para la educación en la Florida, se descarta la posibilidad de una economía de alta tecnología

"I hear America singing in the yellow pages" – Lawrence Ferlinghetti

U.S. companies have always had to factor R&D into early product costs...

Matsushita, Toshiba and Mitsubishi, to name a few leading Japanese electronics firms, based their products on existing advanced U.S. products. U.S. companies, on the other hand, have always had to factor R&D into early product costs. With a considerable research edge, this scenario would more or less balance out, because the U.S. products would be on the market first and would establish standards and sales leadership well in advance of clones from the Orient. But when IBM, Hewlett Packard, Apple and Digital go out to sell they are facing the largest, tightest run and richest corporation on earth, Japan, Inc. This corporation has financing, marketing, manufacturing, shipping, distribution and government supported research and development for new products. Executives from Apple and Sun Microsystems don't sit down and decide just how they are going to divide and conquer the Japanese workstation market, they compete furiously with each other and offer a diminished showing for their efforts. Pathetic is a word often used in Japanese to describe U.S. business.

The United States government can and should begin to enlarge R&D subsidies in this country's computer industry *immediately*, rewarding companies whose product line pricing reflects this support. Efforts to encourage regional trade flow in the hemisphere such as the Caribbean Basin Initiative II should be supported widely rather than treated as line items for veto. The aggressive stance that the U.S. is taking against nationally organized trading countries such as Japan, India, Brazil and Korea, needs to be accompanied by positive reinforcement of the development and distribution efforts of U.S. companies if the flow of international trade isn't to go to the default discount brokers. We don't have to sell our efforts to the highest bidder. We can, should and must lead.

Las empresas Americanas han tenido siempre due dividirse los gastos de I&D en los productos iniciales

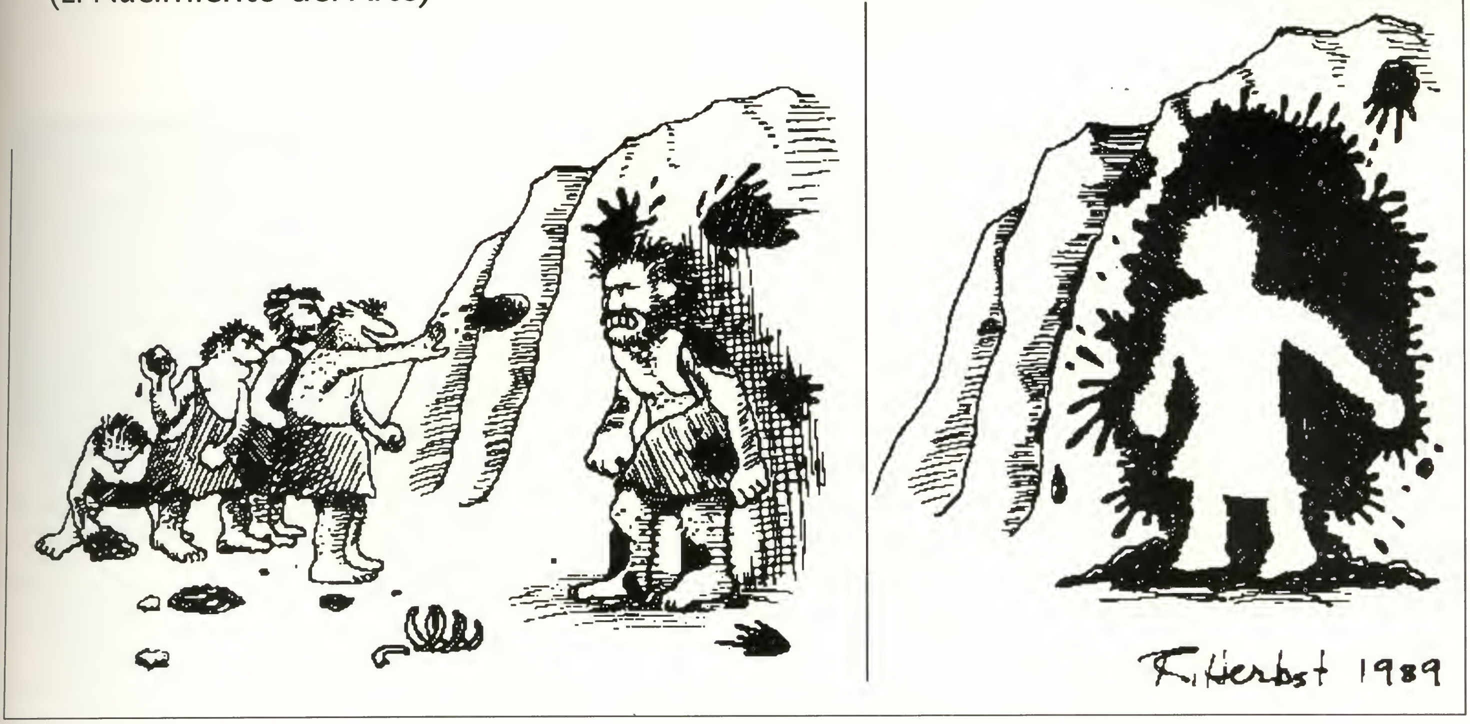
donde realmente, la palabra injusticia nunca se usa para los negocios.

Pero existen algunas grietas en la superficie comercial americana que pueden y debieran repararse de inmediato con habilidad. Aunque disfrutamos de un excedente comercial en equipos de computadoras alrededor de todo el mundo, esto es algo que ha ocurrido más como resultado de nuestra capacidad de introducirnos rápidamente a la producción, partiendo de etapas de investigación avanzados, de nueva tecnología y haciendo éstos disponibles. Donde el Japón ha hecho tradicionalmente entrada ha sido en la tecnología establecida evitando los gastos de investigación y desarrollo, conectándose así directamente a la aceptación internacional establecida. Matshusita, Toshiba y Mitsubishi, para nombrar algunas principales firmas electrónicas Japonesas, basaron sus productos en los productos avanzados existentes en los Estados Unidos, evitando nítidamente los gastos de investigación y desarrollo asociados con todos los productos nuevos. Las empresas americanas, por otra parte, siempre han tenido que dividirse los gastos de investigación y desarrollo en los productos iniciales. Con un margen considerable de investigación, este escenario podría mas o menos tener balance, debido a que los productos americanos saldrían al mercado primero y establecerían el liderazgo de normas y ventas bien por adelantado a las computadoras del Oriente. Pero cuando la IBM, Hewlett Packard, Apple y Digital salen a vender se enfrentan con la mayor, más rigurosa y acaudalada corporación del planeta, Japón, S.A.

Esta corporación cuenta con el financiamiento, la mercadotecnia, la fabricación, la embarcación, la distribución y el apoyo gubernamental para investigaciones y desarrollo de nuevos productos.

Los ejecutivos de Apple y Sun Microsystems no se han sentado para decidir justamente cómo deberán

The Birth of Art
(El Nacimiento del Arte)



dividirse y conquistar el comercio de puestos de trabajos computarizados japonés. Compiten furiosamente unos contra otros mostrando una oferta diminutiva por sus esfuerzos. Patético es una palabra muy usada en los negocios japoneses.

El gobierno de Estados Unidos puede y debería incrementar de inmediato los subsidios para investigaciones y desarrollo en la industria de computadoras del país, recompensando a las compañías cuyos precios de línea de productos reflejen el respaldo del gobierno. Los esfuerzos para alentar el flujo de comercio regional en el hemisferio tales como la Iniciativa de la Cuenca del Caribe II deberían ser apoyados ampliamente en lugar de tratarlos como líneas de artículos para ser vetados.

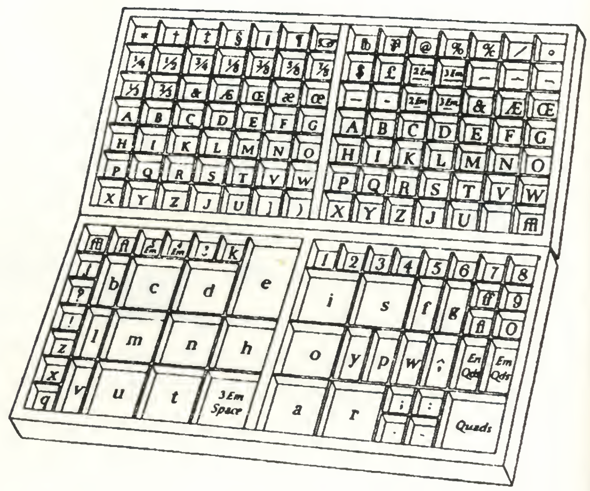
La agresiva postura que los Estados Unidos está tomando contra países de comercio nacional organizado como Japón, India, Brasil y Corea, debe ser acompañado por un refuerzo positivo de los esfuerzos de desarrollo y distribución de las em-presas americanas para que el flujo de comercio internacional no se detenga en los ya conocidos comerciantes. No necesitamos vender nuestros esfuerzos a la mayor apuesta. Podemos ser los líderes.

Adobe markets Font Folio, planning Latin American sales effort

Over a year ago, Adobe Systems of Mountain View, California announced *Font Folio*, a 45 megabyte hard disk containing the entire Adobe font library of Mergenthaler and ITC type faces. The product is aimed directly at professional users of PostScript type fonts. Printers equipped with a SCSI port can connect directly to Adobe's external SCSI hard disk which functions as a "font server" freeing the computer's hard disk from the storage of fonts.

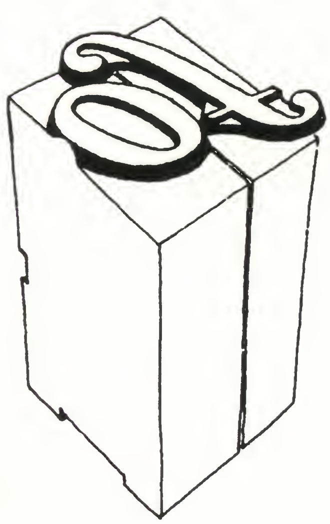
Plans are now underway for making Font Folio available in Latin America. Previously sold only in the U.S. and in certain European countries, market pressure from competing systems such as Bitstream, Microsoft and Apple has convinced Adobe to reevaluate the Caribbean and Latin markets.

Since 1985, Adobe has been the *de facto* standard for digitized type from personal computers. Adobe has licensed its PostScript interpreter and fonts to an imposing list of major manufacturers of laser printers and to many computer manufacturers. PostScript fonts and graphics are "device independent." Final output quality depends on the resolution of the output device rather than limitations built into files. They can be created on an inexpensive computer and printed out on a high resolution imagesetting machine. This capability has been instrumental in bringing down the costs of pre-press work while maintaining or exceeding the quality offered by conventional systems. Apple took an early lead in microcomputer based composition with its high resolution displays and an affordable PostScript laser printer. After more than a year of Macintosh composition and graphics programs dominating these markets, developers offered quality PostScript capability for PC computers.



DID YOU KNOW?

The terms Upper and Lower Case originated with hand-set type kept in boxes like this. Caps, fractions and dingbats were stored in the "upper" case while small letters, quads and numbers resided in the "lower" case.



Adobe's reported net income for 3rd quarter advanced 169% to $6.4 million. Sales for the period were up 139% to $25.2 million. As reported in August, Apple Computer, which held approximately 15% of Adobe's common stock, liquidated its holdings in preparation for introduction of its own interpreter and page description language.

PostScript, however, remains the industry standard and will continue to be integrally supported by Apple.

Adobe Systems • 800 344-8335

LA EMPRESA ADOBE VENDE SU FOLIO DE FUENTES Y PLANEA ESFUERZOS DE VENTAS EN LATINOAMERICA

En septiembre de 1988, la Adobe Systems de Mountain View, California anunció el Font Folio (Folio de Fuentes), un disco duro de 45 megabyte conteniendo la completa biblioteca de fuentes de Adobe de tipos de letras de Mergenthaler y la ITC.

El producto está directamente diseñado para los usuarios profesionales de las fuentes de tipo PostScript.

Las impresoras equipadas con un puerto de SCSI están conectadas directamente al disco duro de SCSI externo de Adobe el cual funciona como un "servidor de fuente" liberando al disco duro de la computadora del almacenamiento de las fuentes.

Los planes están encaminados para hacer disponible el Folio de Fuentes en América Latina. Hasta ahora, el producto se vendía solamente en los E.U. y en ciertos países europeos. Las presiones comerciales de los sistemas competidores como Bitstream han influenciado a la firma Adobe a reevaluar los mercados del Caribe y Latinoamérica.

Desde 1985, la Adobe ha sido el estándar de hecho para el tipo digitalizado de las computadoras personales. La firma Adobe ha autorizado su intérprete electrónico y sus fuentes de PostScript a una lista impuesta de fabricantes mayores de impresoras de láser y para muchos fabricantes de computadoras.

Las fuentes y las gráficas de PostScript son "independientes a los dispositivos". La calidad final de salida depende de la resolución del dispositivo de salida más bien que de las limitaciones construidas dentro de los archivos. Estos se pueden crear en una computadora más barata y ser imprimidos en una máquina impresora de imágenes de alta resolución. Esta capacidad ha sido instrumental en bajar los costos de pre-imprenta mientras se mantiene o exceden la calidad ofrecida por los sistemas convencionales.

La firma Apple tomó una primacía temprana en la composición basada en microcomputadoras con sus desplazamientos de alta resolución y una impresora láser de PostScript costeable.

Después de más de un año de dominio de la composición y las gráficas de Macintosh en el mercado, los productores ofrecieron la capacidad de PostScript de calidad para las computadoras PC.

La firma reportó un ingreso neto del 3er trimestre de 169% a $6.4 millones de dólares. Las ventas para el período estuvieron sobre 139% a $25.2 millones de dólares.

Como se informó en agosto, la Apple Computer, que mantuvo aproximadamente 15% de las acciones ordinarias de Adoble, vendió las acciones en preparación para la introducción de su propio lenguaje de descripción de página y su propio intérprete electrónico.

El lenguaje de descripción de página PostScript permanece, sin embargo, como el estándar de la industria y continuará siendo sostenido integralmente por la Apple.



LATIN TO THE CORE

by Jay Bartlett

It's sometimes hard to see past our computer monitors. For many of us, it's very hard to understand that Americans are not the only culture on the planet using computers. For some, it's beyond comprehension that people who don't understand a word of English can benefit from computer use.

To use a computer you must have at least some understanding of its operating system. Unfortunately the majority—the near monopoly—of operating systems are coded in English. However, at least one major computer company, Apple, has taken this crucial area of customer service and produced versions of its popular Macintosh Operating System in a wide variety of foreign languages. French, English, Spanish, German, Dutch, Swedish, and even Kanji (Japanese) and Arabic are available. And why not? Computers can do so much and are increasingly powerful, why shouldn't a computer user work and communicate in his native tongue?

"Why shouldn't a computer user work and communicate in his native tongue?"

As more and more software companies send their wares overseas, they will need to lose a little American arrogance and work to produce the ultimate user-friendly application—a program that makes sense to the people of the country it is being offered to.

As I worked at this season's Macworld Exposition in Boston, I was again approached by dealers, distributors and end users from as far away as Holland and Australia demonstrating the computer industry's truly international scope. Then I returned to Miami, the most international city in the country, a travel and communications hub for places exotic and remote.

Miami, with aggressive recruiting and marketing by the chambers of commerce and a private trade organization called the Beacon Council, is trying to promote South Florida and attract high tech companies to the area.

"It is one of our targeted industries," says Nancy Jones, Vice President of Marketing for the Beacon Council. It would only seem natural for more interaction between U.S. companies and marketing organiza-

HISPANOAMERICANO HASTA EL MEOLLO

Es a veces un poco difícil divisar más alla de los monitores de nuestras computadoras. Para muchos de nosotros, resulta difícil entender que nuestra cultura no es la única del planeta que utiliza computadoras. Para otros, está más allá de su comprensión que personas que no hablen Inglés puedan beneficiarse del uso de la computadora.

Para utilizar una computadora usted tiene que tener al menos algún conocimiento de su sistema de operación. Lamentablemente la mayoría — cerca del monopolio — de los sistemas de operación están codificados en Inglés. Sin embargo, una de las grandes empresas de computadoras, la Apple, ha tomado esta área crucial del servicio al consumidor y ha producido varias versiones de su muy popular Sistema de Operación de Macintosh en una amplia variedad de lenguas extranjeras. Las versiones en Francés, Inglés, Español, Alemán, Holandés, Sueco y hasta Kanji (Japonés) y Arábigo están disponibles. ¿Y por qué no? Las computadoras pueden hacer tanto y son crecientemente poderosas que, ¿por qué no debiera un usuario trabajar y comunicarse con el sistema en su lengua nativa?

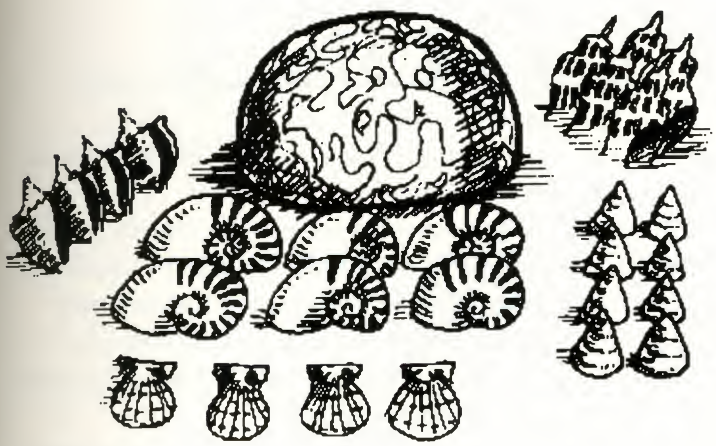
A medida que más y más empresas de programas envíen sus mercancías a ultramar, necesitarán perder un poco de arrogancia Americana y trabajar de producir el mejor programa fácil al usuario. Un programa que tenga sentido para los usuarios del país que reciben éste.

Al yo trabajar en la reciente Exposición de Macworld en la ciudad de Boston, una vez más pude relacionarme con concesionarios, distribuidores y usuarios de lugares remotos como Holanda y Australia, quienes demostraron el verdadero alcance internacional de la industria de la computadora. Luego regresé a Miami, la ciudad más internacional en todo el país, un puente de tránsito y comunicación entre los lugares más exóticos y remotos.

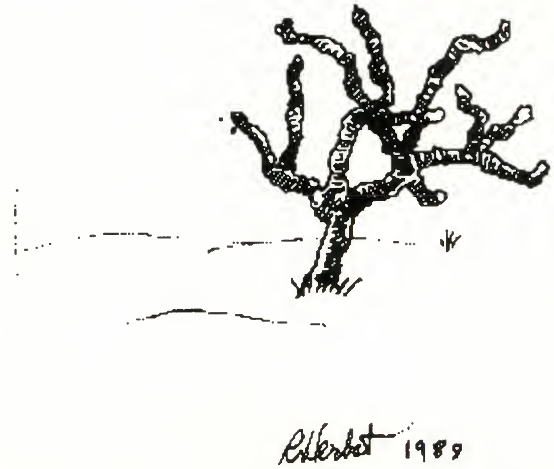
Miami, con un agresivo reclutamiento y mercadotecnia por parte de las cámaras de comercio y una organización de comercio privada llamada Beacon Council, está intentando promover al Sur de la Florida y atraer a esta región a las compañías de alta tecnología.

Vea la página 12

Brain Coral



Dumb Coral



tions trying to deal with the increasing numbers of foreign markets, and in Miami's case, Latin America.

An ongoing project worth noting in Latin America is the *Apple Center* being promoted by Apple Computer. In a concept borrowed from European computer dealers, Apple has set up Authorized Apple dealers that are Apple-only stores. All have the exact same look in furniture and fixtures. Dealers are reimbursed by Apple for the cost of set up. The Centers are geared to promote the Apple product line as well as Apple's technical and international business philosophy. If Apple is willing to invest this kind of money in spotlighting retail operations, you'd figure they would be enthusiastic to showcase these markets in the very place that the markets do business.

This Apple philosophy is also prevalent at the trade shows where their displays are flawless and even interesting. What better way to attract tens of thousands of people, influence their purchasing criteria and sell your products.

Board logic

Recap: Apple Computer, Inc. spends hundreds of thousands of dollars on Latin American Apple Centers—Miami is the financial, communications and business capital of Latin America—Apple works hard to attend key trade show expositions…

Question: When was the last time there was a major computer trade exposition in Miami?

Answer: Only once in the last ten years and it had no major media sponsor such as Macworld Expo.

Next question: Can Miami support a major computer expo?

According to Nancy Jones, "No problem. The infrastructure is here. We have the hotels, we have the transportation and we have the Greater Miami Convention and Visitors Bureau to help in many ways."

The supporting logic for Boston is that it is a high tech area known as Route 128 where many firms and educational institutions come together. San Francisco is a little higher in technical density due to its proximity to Silicon Valley. Both cities have extensive university communities, as well. But a more logical position would be a crossroads for customers, especially international customers, with a genuine need.

Can Miami support a major computer expo?

According to sources close to the promoters of the Boston Macworld Expo, approximately 20%-30% of the attendees came from a distance greater than two hundred fifty miles. Those figures would tend to argue against a trade show in South Florida.

However it must be noted that there is a tremendous volume of commercial traffic between Latin America, the Caribbean and Miami. And the number of computer companies in South Florida is growing exponentially, even if IBM has reduced its presence in Boca Raton. South Florida has an excellent opportunity to become a high tech Camelot for the Caribbean, Central and South America.

"The number of computer companies in South Florida is growing exponentially."

Climate, accessibility, cultures, current and projected export figures and possible attendees add up to great reasons for an expo. If Miami is ever to grab onto and hold any of the High Tech bounty, then it needs to act. Now.

"¿Por qué no debiera un usuario de computador trabajar y comunicarse en su idioma nativo?"

"Es uno de nuestros objetivos como industria," dice Nancy Jones, la Vice Presidente de Mercadotecnia para la Beacon Council. Parecería muy natural de que haya mayor interacción entre las empresas Americanas y organizaciones de mercadotecnia tratar con los números crecientes de los mercados extranjeros, y en el caso de Miami, América Latina.

Un proyecto que se destaca es el que la empresa Apple Computer está realizando en la América Latina, de promover las Agencias de Apple. Es un concepto tomado de los concesionarios de computadoras europeos; la firma Apple ha establecido sus propios concesionarios, los cuales ofrecen los productos de Apple solamente. Estas se identifican rápidamente por la igualdad en diseño que se reflejan en los muebles y accesorios. La empresa Apple tiene como póliza reembolsar los gastos de establecimiento a los concesionarios. Estos centros tiene el objetivo de promover la línea de productos de la firma Apple como también la filosofía técnica y de comercio internacional. Si la empresa Apple está dispuesta a invertir esta clase de dinero destacando operaciones minoristas, no cabe duda de que estarían muy entusiasmados en destacar estos mercados en los centros donde éstos interaccionan.

Esta filosofía de la empresa Apple prevalece también en las exposiciones comerciales donde se puede notar la saturación de los productos Apple en los concesionarios. ¿Qué mejor manera de atraer a decenas de miles de personas, influenciar sus criterios de compra y vender sus productos?

¿Donde esta la lógica?

Enfoque: La empresa Apple Computer, Inc. gasta cientos de miles de dólares en los Centros de Apple Latinoamericanos. Miami es la capital tanto financiera como de comunicaciones y de negocios de América Latina. La empresa Apple se esfuerza arduamente para participar en las exposiciones comerciales de importancia.

Pregunta: ¿Cuándo fue la última gran exposición comercial de computadoras en Miami?

Respuesta: Solamente una vez en los últimos diez años y no tuvo un patrocinador mayor como la Macworld Expo.

Pregunta: ¿Podría ser Miami el anfitrión de una exposición mayor de computadoras?

De acuerdo con Nancy Jones, "No hay problema. La infraestructura está aquí. Tenemos los hoteles, la transportación y contamos con el Greater Miami Convention and Visitors Bureau (Buró de Convenciones y de Visitantes del Gran Miami) que puede asistir en muchas maneras".

La lógica de que Boston sea una preferencia es porque es un área de predominancia de alta tecnología conocido como Itinerario 128 donde muchas firmas de alta tecnología e instituciones educacionales interaccionan. San Francisco tiene una mayor densidad técnica debido a su proximidad a Silicon Valley. Ambas ciudades tienen además extensas comunidades universitarias. Pero una mejor alternativa sería una encrucijada para clientes, clientes especialmente internacionales, con una necesidad genuina.

De acuerdo con las fuentes cerca de los promotores del Boston Macworld Expo, aproximadamente 20% a 30% de los concurrentes provinieron de una distancia mayor a los dos cientos cincuenta millas. Aquellas cifras tenderían a no favorecer una exposición en el Sur de Florida.

Sin embargo, se debe notar que hay un tremendo volumen de tráfico comercial entre América Latina, el Caribe y Miami. Y la cantidad de compañías de computadora en el Sur de Florida está creciendo exponencialmente, aunque la empresa IBM haya reducido su presencia en Boca Raton.

El Sur de Florida tiene una excelente oportunidad para convertirse en un gran centro de atracción técnico para el Caribe, Centro y Sur América.

El clima, la accesibilidad, las culturas, las cifras de exportación corriente y proyectadas y la posible concurrencia añaden a las razones para una gran exposición en esta región.

Si Miami ha de aprovecharse y convertirse en un centro de alta tecnología, entonces necesita actuar ahora.

¡O posiblemente esto se realice en Rio de Janeiro!

SOUTH AMERICA **UPDATE**

TRADEWINDS

by Rose Robbins



The computer and software markets in South America are expanding because of the growing awareness there that these products are necessary to economic growth and survival. Among the the best markets are: **Brazil, Chile, Argentina, Colombia, Peru and Venezuela.**

BRAZIL '89... Although Brazil's computer and software market is the largest, it is also the most highly protected and regulated. The U.S. exported $351 million in computers and peripherals to Brazil in 1988. Brazil's computer market was $2.6 billion and its software market estimated at $200-$400 million in 1988.

Brazil's **1984 Informatics Law** (Decree Law 7232, Oct. 29, 1984) limits the majority of the Brazilian informatics market for domestic firms. The **Special Secretariat for Informatics (SEI)** regulates all imports, production, research, development, and technology transfer involving "informatics" products (computers and related digital technology products. Interested parties are advised to follow U.S. Section 301 investigations of Brazil's informatics policies.

The **"market reserve"** policy of the SEI forbids foreign participation in informatics markets where Brazilian firms have technological capabilities. The areas which are **open for foreign participation** are **mainframe computers, high capacity work stations,** and **upper-end peripherals. IBM** and **Unisys** have production facilities in Brazil which produce mainframe computers and dominate that segment of the market. Other active foreign firms are **Digital** and **Fujitsu**. **Hewlett Packard** and **Data General** have licensed technology to Brazilian companies. For the most part, **personal computers in Brazil are Brazilian-made clones of U.S. models and cost several times the price of comparable U.S. models.**

The software market in Brazil is under the guidelines of Brazil's **Software Law** (Law 7646 of December 18, 1987). **The SEI must approve all computer programs in order for them to be legally marketed in Brazil.** Approval will be denied if SEI determines that a similar program of Brazilian origin exists. A ruling takes 120 days and the SEI must justify any denial according to the provisions of **Law 7646,** which modifies existing protection to computer software. **Intellectual property rights *has* made progress** in Brazil. Protection of software copyright, at least on paper, does not depend on copyright registration in Brazil. As long as a program has been registered somewhere, the titleholder's copyrights are protected under Brazilian law. Enforcement is another matter.

An approved program marketed in Brazil for three years must be renewed for approval. **The software must be distributed through a Brazilian firm and the distribution contracts must also be approved.** SEI has rejected few of such applications, encouraging U.S. software firms to show renewed interest in this market.

CHILE—SOUTH AMERICA'S "GOLDEN CHILD" Hardware imports account for the bulk of Chile's annual computer imports of $80 million. U.S. firms such as IBM, Unisys, NCR and Digital take up more than 69% of total hardware imports. Recently, Japan, South Korea, Taiwan, and the United Kingdom have entered the market. Most of the U.S. exports are small- and medium-sized mainframes, memory units, minicomputers, and personal computers. Chile imported $2.5 million in software in 1988, mostly from the U.S.

COLOMBIA—STILL HANGING IN THERE— In 1988, hardware imports were at **$238 million** and made up **76 percent of computer imports.** The U.S. dominates 84 percent of Columbia's computer and computer related equipment import market. The software market, mostly programming languages and business applications, is $21

INFORME ACTUALIZADO DE LA AMERICA DEL SUR

VIENTOS ALISIOS

Por Rose Robbins

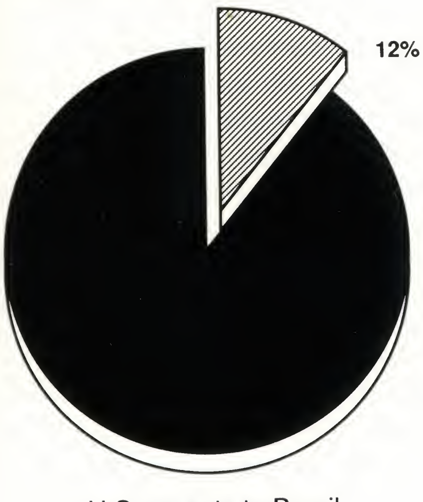
El mercado de computadoras y programas electrónicos de la América del Sur está en expansión debido a la creciente conciencia en aquellos países de que estos productos son necesarios para el crecimiento económico y la supervivencia. Entre los mejores mercados están: Brasil, Chile, Argentina, Colombia, Perú y Venezuela.

BRASIL... Aunque el mercado de computadoras y programas de Brasil es el mayor, es también el más protegido y regulado. Estados Unidos exportó $351 millones en computadoras y periféricos a Brasil en 1988. El mercado de computadoras de Brasil fue de $2.6 billones y su mercado de programas electrónicos fue estimado en $200 a $400 millones de dólares en 1988.

La **Ley de Informática de 1984 de Brasil** (Decreto de Ley 7232, del 29 de Octubre de 1984) limita la mayoría del mercado de informática Brasileño para las firmas domésticas. El **Secretariado Especial para la Informática (SEI)** regula todas las importaciones, la producción, la investigación, el desarrollo, y los productos de **"informática"** que involucran la transferencia de tecnología (computadoras y productos digitales relacionados con la tecnología). Se aconseja a los interesados a seguir las investigaciones de la Sección 301 de Estados Unidos concernientes a las políticas de informática de Brasil.

La política de **"reserva de mercado"** del SEI prohibe la participación extranjera en el mercado de informática donde las firmas Brasileñas tienen las capacidades tecnológicas. Las áreas abiertas a la participación extranjera es la de computadoras grandes, las estaciones de trabajo de alta capacidad y los periféricos superiores. Las firmas **IBM** y **Unisys** tienen instalaciones en Brasil que producen computadoras grandes y dominan ese segmento del mercado. Otras firmas extranjeras activas son **Fujitsu** y **Digital**. Las firmas **Hewlett Packard y Data General** han autorizado sus tecnologías a compañías Brasileñas. En la mayoría de los casos, las computadoras personales en el Brasil son de fabricación Brasileña, imitaciones de los modelos Americanos que llegan a venderse por varias veces el costo del modelo original.

U.S. share of Brazil's computer market



U.S. exports to Brazil
$351 million
Total Brazilian market
$2.9 billion

El mercado de programas electrónicos en Brasil está bajo los lineamientos generales de la **Ley de Programas del Brasil** (Ley 7646 del 18 de diciembre de 1987). El SEI tiene que aprobar todos los programas de computadora para que éstos sean legalmente comerciados en el Brasil. La aprobación será negada si el SEI determina que un programa similar de origen Brasileño existe. Un fallo puede demorarse hasta 120 días y el SEI tiene que justificar cualquier negación de acuerdo con las provisiones de la Ley 7646, la cual modifica la protección existente al programa de computación. Los derechos a la propiedad intelectual han hecho gran progreso en el Brasil. La protección del derecho del autor del programa, al menos por escrito, no depende del registro de derecho de autor en el Brasil. Tan pronto como un programa ha sido

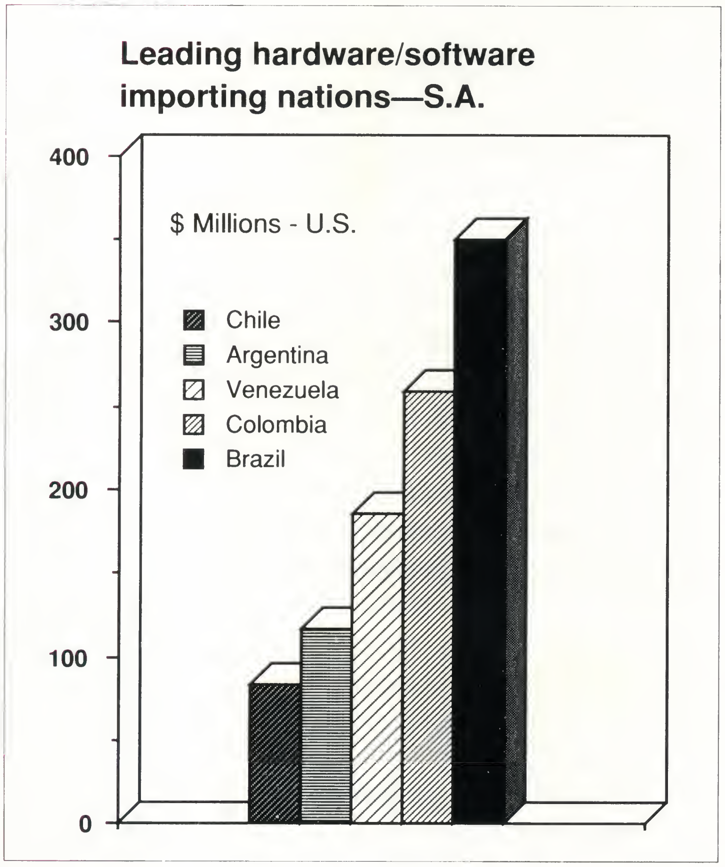
million, most of it from the U.S.

PERU: Total computer imports declined in 1988 to $31 million because of a recession. The U.S. had a 59 percent share of the market, followed by Japan, Taiwan, Germany, Brazil and Mexico. At this time software sales are small at $20 million in 1988, mainly because **many software programs are too sophisticated for installed Peruvian business systems.** This is changing very quickly as the cost of PC clones continue to tumble.

VENEZUELA: The 1988 market for both hardware and software was $186 million with the U.S. share at 76 percent. Japan, Taiwan and Korea are competing in microcomputer, minicomputer, and peripherals (printers, color monitors, hard disks) sales. Active U.S. companies ainclude: Apple, IBM, AT&T (Olivetti), Unisys, NCR, DEC, Hewlett Packard and Kaypro.

The software market was $41 million in 1988 and was almost entirely imported. The U.S. had a 94 percent share of this market.

ARGENTINA: The Argentine overall import market in 1988 was $117 million with the U.S. having a 62 percent market share. **Personal and professional microcomputers are in demand and principal end-users are small businesses, industrial companies, and financial institutions.** The Argentine government has tried to protect the local computer industry by raising import tariffs and providing tax incentives to Argentine companies. **Although U.S. firms have been able to compete within that system, the import market would be much larger if import duties were lowered**, and there seems to be progress being made in that quarter with national debt comprising some of the leverage.



SENIOR COMMERCIAL OFFICERS TO MEET IN MIAMI

U.S. Department of Commerce Senior Commercial Officers from 20 countries will be available for private consultation in Miami on December 4th and 5th. The meeting is sponsored by the U.S. Department of Commerce, the Florida District Export Council and the Florida Department of Commerce. For information please call: (305) 536-5267.

POLITICAL RISKS REPORT

Political risk assessments for NICARAGUA, PERU and JAMAICA are available in an annually revised report designed to aid businesses, banks and government agencies with in-depth analyses of political, economic, and social conditions. Contact: Janice Gittino, Political Risk Services, Suite 107, 407 University Avenue, Syracuse, N.Y. 13210.

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Product	Mfgr.	Personal use	Business use
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Reader Service November, 1989

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capaces de competir dentro de ese sistema, la importación sería mucho mayor si los costos de importación disminuyeran, y parece que ha habido progreso ya que en este trimestre la deuda nacional ha abarcado parte del palanqueo.

OFICIALES COMERCIALES EN MIAMI

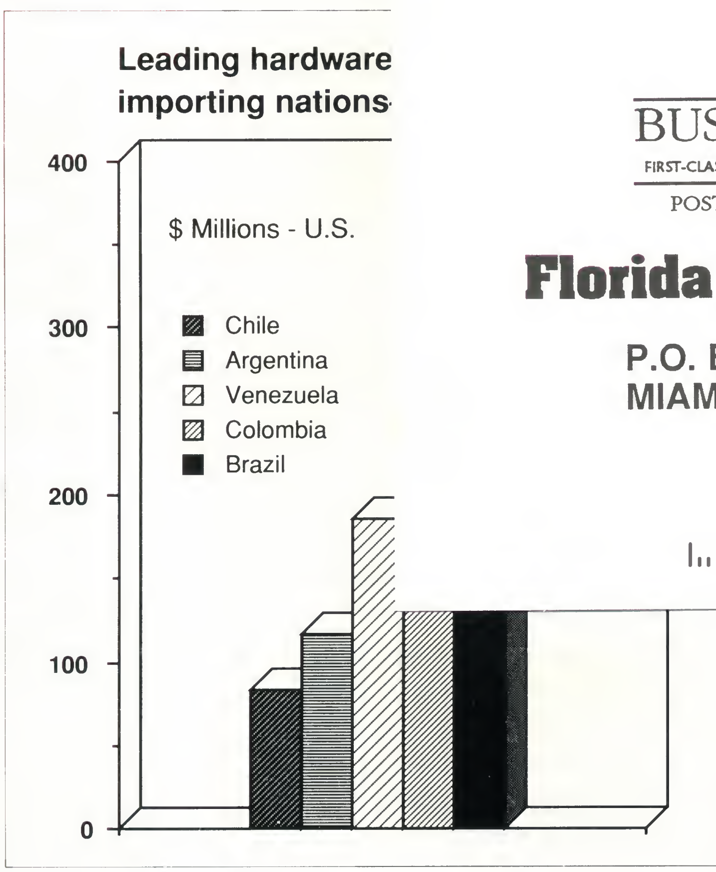
El Departamento de Comercio de Estados Unidos de Oficiales Comerciales Superiores de 20 países estarán disponibles para toda consulta privada en Miami los días 4 y 5 de diciembre. La reunión es patrocinada por el Departamento de Comercio de Estados Unidos, el Consejo de Exportación del Distrito de Florida y el Departamento de Comercio de la Florida. Para más información, por favor, llamar al: (305) 536-5267.

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registrado en algún lugar, los derechos de autor del titular se protegen bajo la ley Brasileña. El hacer cumplir dicha ley es otra cuestión.

Un programa que sea aprobado puede ser comerciado en el Brasil **por tres años,** luego la aprobación tiene que renovarse. El programa tiene que ser distribuido a través de una firma Brasileña y los contratos también tiene que ser aprobados. El SEI ha rechazado muy poco de las solicitudes, alentando a las empresas Americanas de programas de computación a demostrar un continuo interés de comercialización en este mercado.

CHILE—PRINCIPE DORADO DE SUR AMERICA: El equipo tecnológico es lo que explica el grueso de las importaciones anuales de computadoras en Chile, el cual es de $80 millones. Las firmas Americanas como la IBM, la Unisys, la NCR y la Digital acaparan más del 69% de la importación total de equipo electrónico. Recientemente, Japón, Corea del Sur, Taiwan y el Reino Unido entraron al mercado. La mayoría de las exportaciones Americanas consiste en computadoras pequeñas y medianas, unidades de memoria, minicomputadoras, y las computadoras personales. Chile importó $2.5 millones en programas electrónicos en 1988, principalmente de los Estados Unidos.

COLOMBIA — MANTENIENDOSE FIRME... En 1988, las importaciones de equipo electrónico estuvieron en $238 millones y 76 por ciento representó las importaciones de computadoras. Los Estados Unidos domina el 84 por ciento de la importanción Colombiana de computadoras y equipo de computación. El mercado de programas electrónicos, principalmente de los lenguajes de programación y las aplicaciones para negocios, está en los $21 millones, la mayoría siendo importados de los Estados Unidos.

VENEZUELA: El mercado en 1988 tanto para programas como para equipos electrónicos fue de $186 millones con la porción Americana del 76 por ciento. El Japón, Taiwan y Corea están compitiendo en las ventas de microcomputadoras, minicomputadoras y periféricos (impresoras, monitores a color y discos duros). Las empresas Americanas activas incluyen: la Apple, la IBM, la AT&T (Olivetti), la Unisys, la NCR, la DEC, la Hewlett Packard y la Kaypro.

El mercado de programas electrónicos fue de $41 millones y fue casi totalmente importado. Los Estados Unidos tuvo una porción del 94 por ciento de este mercado.

ARGENTINA: El mercado de importación global de Argentina en 1988 fue de $117 millones de dólares, con los Estados Unidos teniendo una participación en el mercado del 62 por ciento. Las microcomputadoras personales y profesionales están en demanda y los principales usuarios son los negocios pequeños, las compañías industriales, y las instituciones financieras. El gobierno Argentino ha intentado proteger la industria de computadoras local levantando las tarifas de importación y ofreciendo incentivos de impuestos a las compañías Argentinas. A pesar de que las firmas Americanas han sido capaces de competir dentro de ese sistema, la importación sería mucho mayor si los costos de importación disminuyeran, y parece que ha habido progreso ya que en este trimestre la deuda nacional ha abarcado parte del palanqueo.

OFICIALES COMERCIALES EN MIAMI

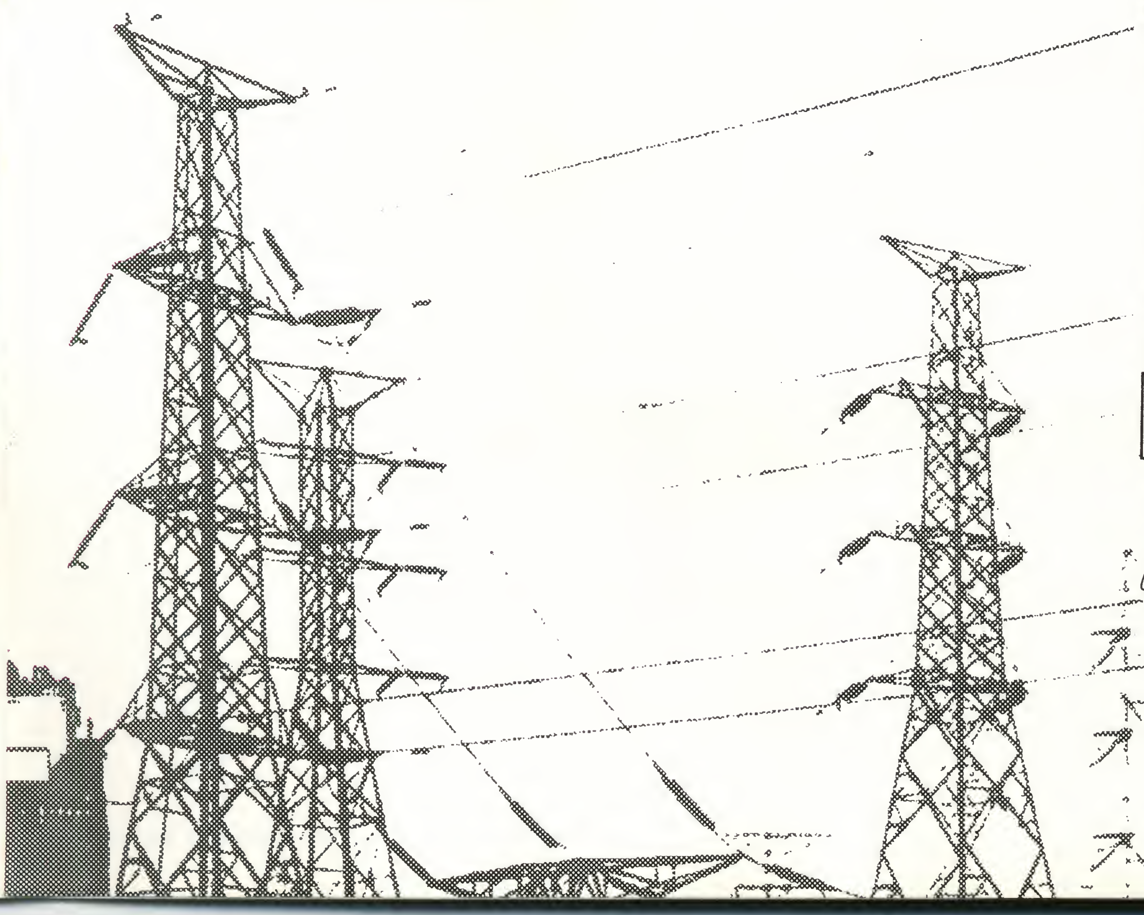
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POWER*UP!*

INTERNATIONAL VOLTAGES

Country	Voltage	Country	Voltage
Aden	220V	Chile	220V
Afghanistan	220V	Colombia	110V
Algeria	110/220V	Costa Rica	110/220V
Argentina	220V	Guatemala	110/220V
Australia	220V	Guyana	110/220V
Bahrain	220V	Jamaica	110/220V
Barbados	110/220V	Mexico	110/220V
Bermuda	110/220V	Peru	220V
Bolivia	110/220V	Portugal	110/220V
Brazil	110/220V	Spain	110/220V
Canada	110/220V	Venezuela	110/220V

If you are traveling with a computer or hard disk, check with that country's consulate for the last word on power requirements as well as telecommunications availability. Also check with your computer's manufacturer. Many newer systems come with power supplys that automatically adjust to either110V or 220V. Never plug in without a surge protector.





ON LINE LEARNING

The Electronic Global Village, Dade County

by Richard Herbst

The Classroom Connection—Apple joins the war on ignorance...

On the 7PM news, East German refugees are streaming across the border into West Germany . To find out what is really going on in Central Europe you must wait for tomorrow's morning newspaper, listen to a commentator offer an analysis of the situation and watch the news again. For Consuelo Pino's Global Studies class at Miami's Central High School, firsthand information is much more direct. Students here can turn on a computer, directly contact Luitpold Gymnasium, a high school in West Germany, and begin a dialogue with their West German counterparts.

Dade County has the 4th largest school system in the United States and no shortage of bright students eager to navigate within the sea of information surrounding them. The school system enjoys a measure of control from within that allows teachers to respond faster to the needs of students than school systems directed through more traditional architectures. Combined with South Florida's unique position as a cultural crossroads and its role as the communications hub for Latin America, this provides an unparalleled opportunity for young people to enter the "electronic global village" through their schools. With a far thinking Computer Education Department led by Dr. Rita Oates, South Florida schools are teaching Advanced Computer Revolution to a generation of youngsters for whom computer literacy and competence is as basic as long distance dialing. Second in scale only to the Industrial Revolution, this revolution offers students an unprecedented opportunity to take their places in a world where distance has little significance and information in motion defines many of our values.

FOR GROWNUPS ONLY

Kids learn to use computers quickly—if you were one, you would, too. It's adults that have to be dragged kicking and screaming into boring classrooms to learn DOS or Lotus 1-2-3 from uninspired instructors so that they can enter data into spreadsheets and databases. From their point of view, it is hard to picture a computer as a new doorway to the planet. Yet this is precisely what is happening in the schools. Once a kid accepts the fact that a computer is merely an information tool and learns to internalize or automate its operation, he or she can move on to the world



EL APRENDIZAJE EN-LINEA

La Aldea Electrónica Global, el Condado de Dade, Florida

La conexión de aulas — la firma Apple se une en la guerra contra la ignorancia

De acuerdo a las noticias, los refugiados de Alemania Oriental están fluyendo a través de la frontera a Alemania Occidental. Para darse cuenta de lo que realmente está sucediendo en Europa Central usted tiene que esperar por los periódicos matutinos, escuchar a un comentarista ofrecer un análisis de la situación y volver a mirar las noticias en televisión. Para la clase de estudio global de la Señorita Consuelo Pino en la escuela secundaria Miami Central High School, la información de fuentes originales es más directo. Los estudiantes aquí pueden encender una computadora, comunicarse directamente con el Gimnasio de Luitpold, o con una escuela secundaria en Alemania Occidental y emprender un diálogo con sus homólogos Alemanes Occidentales.

El Condado de Dade tiene el 4to mayor sistema escolar en los Estados Unidos y ninguna escasez de brillantes estudiantes con deseos de navegar en el mar de información que los rodea. El sistema escolar disfruta de una medida de control interna la cual le permite a los maestros responder más rápidamente a las necesidades de los estudiantes que los sistemas escolares dirigidos a través de arquitecturas más tradicionales. Combinada con la posición del Sur de la Florida como una encrucijada cultural y su papel como el centro de comunicaciones para América Latina, ésto provee una oportunidad sin paralelo para los jóvenes a entrar en la "Aldea Electrónica Global" a través de sus escuelas. Con un Departamento de Educación en Computación pensante y dirigido por la Dr. Rita Oates, las escuelas del Sur de la Florida están enseñando la Revolución Avanzada de Computadoras a una generación de jóvenes para quienes la alfabetización y la competencia en computación es tan básico como el marcar un número telefónico de larga distancia. Segundo en la escala solamente a la Revolución Industrial, esta revolución ofrece a los estudiantes una oportunidad sin precedentes para tomar sus lugares en un mundo donde la distancia significa poco y la información en movimiento define muchos de nuestros valores.

SOLO PARA JUICIOSOS

Los niños aprenden a utilizar las computadoras rápidamente — de ser usted un niño, también aprendería con rapidez. Son los adultos los que tienen que ser arrastrados y forzados para que entren a las aulas, que resultan aburridas por los instructores sin inspiración, para aprender DOS o Lotus 1-2-3 y así poder entrar información en hojas de cálculo y bases de datos. Desde este punto de vista es difícil visualizar a la computadora como una nueva puerta a las oportunidades. No obstante, esto es precisamente lo que está sucediendo en las escuelas. Una vez que un chico acepta el hecho de que una computadora es simplemente una herramienta de información y aprende a incorporar o automatizar su operación, él o ella puede pasar al mundo de las posibilidades, justamente como usted ha incorporado y aprendido el uso del teléfono. Usted acepta al teléfono como un dispositivo de interconexión internacional sin las limitaciones de la distancia. Cuando un estudiante ve que una computadora conectada a una línea telefónica no tiene dificultad para marcar otra computadora y le pone pantalla a pantalla con alguien que se encuentre a miles de millas, su apreciación de las posibilidades de la computadora sobrepasa los suyos por un gran margen. ¡Qué mejor manera de aprender acerca de los misterios de la antigua Inglaterra que visitando dicho país! Al menos ahora, él o ella puede comunicarse con alguien que está allí. Si él marca el número de un salón de clases en otro país, no sólo habrá evitado el sistema de correos sino que habrá hecho una conexión provechosa, casi al instante, con alguien en algun lugar del mundo que tiene algo en común con él. Ambos estudiantes estarían utilizando las líneas de computadoras y telecomunicaciones. Ambos estarían haciendo esto porque desean y no porque tengan que hacerlo. Ambos estarían cruzando las "buenas cercas" que tanto sus padres como sus países han gastado cientos y hasta miles de años en erigir. Y ambos se darían cuenta de que son vecinos instantáneos, a pesar de la más insignificante de los factores, la distancia.

BREVEMENTE

Cuando las computadoras se conectan a través de la línea telefónica, éstas "están en-línea". La computadoras "hablan" unas con otras convirtiendo sus propios señales de datos en señales telefónicas a través de un dispositivo llamado Modulador.

Un ejemplo es el micrófono en su aparato telefónico. Este convierte su voz en señales eléctricas

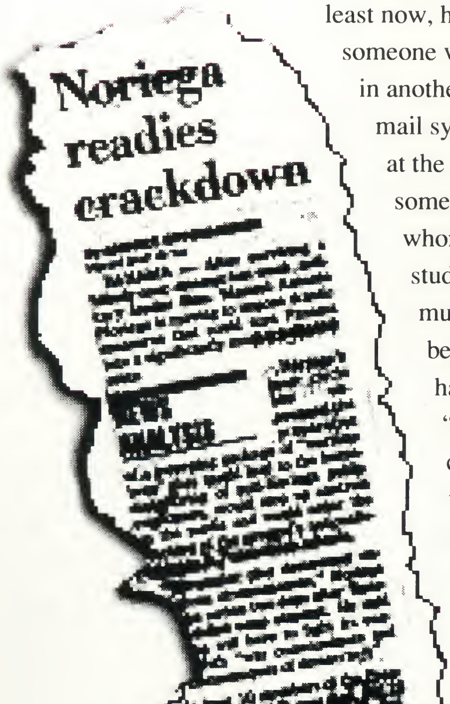
"Esta en el mejor interés de las comunidades y escuelas el alentar el crecimiento académico e intelectual de los niños a enseñarles un nuevo método de compra..."

"[kids] are stepping over the 'good fences' their parents and countries have spent hundreds and thousands of years to erect."



Frank De Varona, left, and Dr. Jan Tucker were instrumental in getting AGE to Dade County, Florida schools

of possibilities, just as *you* have internalized the use of the telephone. *You* accept the telephone as an international networking device with no distance limitations. When a student sees that a computer connected to a telephone line has no trouble dialing another computer and putting him screen to screen with someone thousands of miles away, his appreciation of its possibilities has just exceeded yours by a quantum leap. What better way to learn about the far off mysteries of old England than to go there. At least now, he or she can communicate with someone who is there. If he dials up a classroom in another country he has not only bypassed the mail system and made a real-time connection at the speed of light, but he has found someone in a remote part of the world with whom he has a great deal in common. Both students are using computers and telecommunications lines. Both are doing this because they want to, not because they have to. Both are stepping over the "good fences" their parents and their countries have spent hundreds and even thousands of years to erect. And both are finding each other to be instant neighbors despite that most insignificant of factors, distance.



Noriega readies crackdown

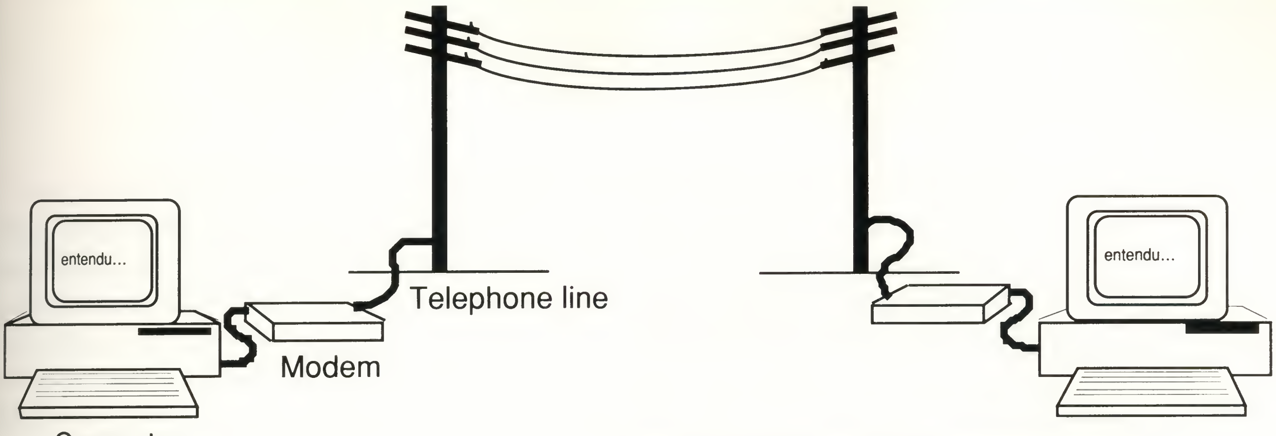
A QUICKIE

When computers connect with one another by phone, they "go on-line." Computers "talk" to one another by converting their own data signals into telephone signals with a device called a modem.

(see diagram on facing page)

The mouthpiece in your telephone handset is an analogy. It converts your voice into electrical signals that go over the phone. These are received by an earphone and converted back into audible tones that you can hear. The computer's data enters the modem and is converted into telephone signals. It reaches its destination where another modem converts it back into a computer signal. Anything that can be created on one computer, whether it be the text of a novel, a digitized picture of the countryside, the sounds of a synthesizer or an animated video image, can be recreated over a phone line on another computer. This is what telecommunications is all about and why it is so important.

On-line services are companies that make all kinds of information available to computers by telephone. A mainframe computer handles hundreds of incoming calls simultaneously. Vast law libraries like Lexis and Westlaw provide caselaw to attorneys. Broad-based information services such as DIALOG offer in-depth data on hundreds of categories for research. Dow-Jones News Retrieval brings the stockmarket to any computer screen and offers options such as in-depth company profiles. There are



que se transmiten a través del teléfono. Estas señales se recibien por un auricular y se convierten nuevamente en tonos audibles que usted puede oir. Así la información de la computadora entra al modulador y se convierte en señales telefónicas. Este llega a su destino donde es recibido por otro modulador el cual vuelve a convertir la señal en una de computadora. Cualquier cosa que pueda ser creado en una computadora, ya sea el texto de una novela, una imagen digitalizada del distrito rural, los sonidos de un sintetizador o una imagen animada de video, puede ser recreado a través de una línea telefónica en otra computadora. De esto se tratan las telecomunicaciones y por eso es tan importante en las escuelas.

Los servicios en-línea son compañías que hacen disponibles toda clase de información de computadoras por medio del teléfono. Esto es posible a través de una computadora grande que manipula cientos de llamadas entrantes simultáneamente. Un ejemplo son las vastas bibliotecas de ley como la Lexis y la Westlaw que proveen a los fiscales con precedentes importantes.

Servicios de información con amplia base como la DIALOG ofrece datos a fondo en cientos de categorías para la investigación. La Recuperación de Noticias de Dow-Jones trae al mercado de divisas a cualquier pantalla de computadora y ofrece opciones tales como el perfil detallado de la empresa. Existen además los servicios de computadoras para encontrar una pareja. La información puede costar hasta $150 dólares por una hora de conexión a estos servicios.

EL MARCAR POR DINERO

Otra clase de servicio en-línea es el servicio al consumidor minorista. Empresas como la CompuServe le permite comprar muchos artículos de necesidad. Una empresa recientemente comenzada por las firmas IBM y Sears llamada Prodigy le trae el centro comercial a la comodidad de su hogar por una baja cuota mensual por tiempo de conexión. Los suscriptores pueden comprar muchas cosas, pueden hacer reservaciones a líneas aéreas, jugar con los juegos electrónicos, obtener las tazas del mercado de valores y ver las noticias. La firma IBM proveyó el programa electrónico y la Sears, los canales de consumidores minoristas. El Sr. Brian Ek, Administrador de Programas y Comunicación del Mercado de la firma

Fighting the good fight. Left to right: Apple's Micaela Weeks, Associate Superintendant Frank De Varona, site teacher Consuelo Pino, Joanne Urrutia, Director of Computer Education Dr. Rita Oates, Rick Reece, FIU's Dr. Jan Tucker, AGE program director Dr. Martin Engel



even computer dating services. Information can cost as much as $150 per hour of connect time.

DIALING FOR DOLLARS

Another kind of on-line service is the retail consumer service. Companies like CompuServe let you shop for various retail items. A company recently started by IBM and Sears called Prodigy brings the mall to your livingroom for a low monthly connect fee. Subscribers can shop their hearts out, make airline reservations, play computer games, get stock market quotes and read the news. IBM provided the software, Sears the retail consumer channels. Brian Ek, Prodigy's Manager of Market Programs and Communication in White Plains, New York cautioned "Prodigy is not intended for use in schools. It is meant to be used at home." Nevertheless, the computer education departments of all Dade County schools will be receiving a free starter kit and one year of unlimited on-line time for the service.

"It is in communities' and schools' best interests to encourage academic and intellectual growth rather than teach children yet another way to shop..."



IN ANOTHER COUNTRY...

On October 4, Dade County Schools approved donation of a network installation from Apple Computer known as Apple Global Education. Under direction of Ms. Pino of Miami's Central High, an AGE installation has gone into a school which has a computer for every three students. The project began last April when Florida International University professor Jan Tucker was being interviewed by the New York Times for an article on global education. A companion article describing the Apple Global Education program caught Tucker's eye. "This is something that belongs in South Florida right now," he said. He contacted Apple's southeastern education representative, Micaela Weeks and discussed the project. Then, with Dr. Rita Oates, Director of Dade County Computer Education and Frank de Varona, Associate Superintendent of Schools, they presented a proposal to Apple. De Varona learned of Apple's acceptance while he was on a speaking tour of the Dominican Republic. He suggested that Santo Domingo be added as an Apple Global Education site and Apple approved it. In November, Central High will be on-line with more than sixty five K-12 schools in twenty-one countries.

Rather than shopping and playing video games, AGE offers teachers extensive suggested curriculum materials for developing imaginative programs of their own.

- Suggested concepts include *international conflict resolution:* A school identifies another with which it has traditional conflicting ideologies. A third school is asked to adjudicate the dialogue between the conflicting countries.
- *Parallel investigations and research projects:* Participating schools agree to research a set of categories and enter them in a data base for side by

THE EDUCATIONAL TERRORIST

Apple Global Education or AGE was conceived by Dr. Martin Engel, originator of ACOT, the Apple Classroom Of Tomorrow which is an ongoing research project. Engel is a self proclaimed "educational terrorist armed with a Macintosh" for whom the objective in placing computers in schools is to "achieve critical mass." Every student should have a computer for learning, and for personally experimenting with the world. "You wouldn't time-share a pencil," he quips. Whatever people do best they do with passion and that goes for everything from dancing and the arts to communicating with a computer. No Macintosh owner refers dispassionately to his computer as "the computer," rather it's "my Mac," spoken with spiritual conviction. It's a very real thing that can't be explained to MS-DOS oarsmen, and it is especially poignant in the classroom. Engel talks of observations of whales who sing in groups to one another. Since water is so conductive a medium for sound and whales have extremely sensitive hearing, it was observed that they were actually singing to other whales thousands of miles distant in a phenomenon he calls the classroom-ocean.

Prodigy en White Planes, Nueva York advirtió, "La firma Prodigy no se pretende para las escuelas. Fue diseñado para el uso desde la casa." No obstante, los departamentos de educación en computación en todas las escuelas del Condado de Dade estarán recibiendo un juego de iniciación gratis y un año de tiempo en-línea ilimitado de dicho servicio.

EN OTRO PAIS...

El 4 de octubre, las escuelas del Condado de Dade aprovaron una donación de una instalación de red de computadoras de la empresa Apple conocida como la Educación Global de Apple. Bajo la dirección de la Señorita Pino una instalación de EGA ha tenido lugar en la Miami Central High School la cual cuenta con una computadora para cada tres estudiantes de dicho centro. El proyecto comenzó en abril pasado cuando el profesor Jan Tucker de la Universidad Internacional de la Florida estaba siendo entrevistado por la New York Times acerca de un artículo sobre la educación global. Un artículo similar que describía el Programa de Educación Global de Apple captó el interés del profesor Tucker. "Esto es algo que debe estar en el Sur de la Florida en este momento," dijo. El profesor Tucker contactó a la representante de educación de la empresa Apple para la región del sureste, la Señora Micaela Weeks con quien conversó acerca del proyecto. Luego, con la Dr. Rita Oates, Directora de Educación en Computación en el Condado de Dade y el Señor Frank de Varona, Superintendente Asociado de Escuelas, presentaron



una propuesta a la empresa Apple. El Señor de Varona supo de la aceptación de la firma Apple mientras se encontraba en una gira de seminarios en la República Dominicana. El sugirió que Santo Domingo fuese agregado al Programa de Educación Global de Apple y dicha empresa aceptó y aprovó tal sugerencia. En el mes de noviembre, la escuela secundaria Central High estará en-línea con más de sesenta y cinco escuelas secundarias en veintiún países del mundo.

La Educación Global de Apple ó EGA fue concebido por el Dr. Martin Engel, creador de AADM, Aula de Apple Del Mañana el cual es un creciente proyecto de investigación. El Dr. Engel se autoproclama como un "terrorista educacional armado con una Macintosh" para quien el objetivo de colocar computadoras en las escuelas es para "lograr la masa crítica". Cada estudiante debería tener una computadora para aprender y para experimentar personalmente con el mundo. "Usted no compartiría el tiempo de uso de un lápiz," él mofa. Cualquier cosa que hace alguien lo hace mejor si tiene pasión por lo que hace y esto va desde el baile y las artes hasta las comunicaciones en computadoras. Ningún dueño de computadoras se refiere a su propiedad como "la computadora" sino que dice "mi Macintosh", y dicho con una sincera convicción. Es algo tan real que no puede ser explicado por MS-DOS y es especialmente conmovedor en los salones de clases. El Dr. Engel habla acerca de las observaciones de ballenas que se cantan unas a otras estando en grupos. Dado que el agua es un excelente conductor de sonido y las ballenas cuentan con un sentido audible extremadamente sensitivo, se observó que realmente las ballenas le cantan a otras que se encuentran a miles de millas de distancia, fenómeno que él llama aula-oceánico.

En lugar de estar comprando o jugando con juegos de video, EGA ofrece extensivos materiales de curriculum sugeridos a los maestros para el desarrollo de sus propios programas con imaginación.

Los conceptos sugeridos incluyen la resolución de conflicto internacional: Una escuela identifica a otra con la cual tiene tradicionalmente ideología contradictoria. Se le solicita a una tercera escuela a que adjudique el diálogo entre los países en conflicto.

side comparison of results.

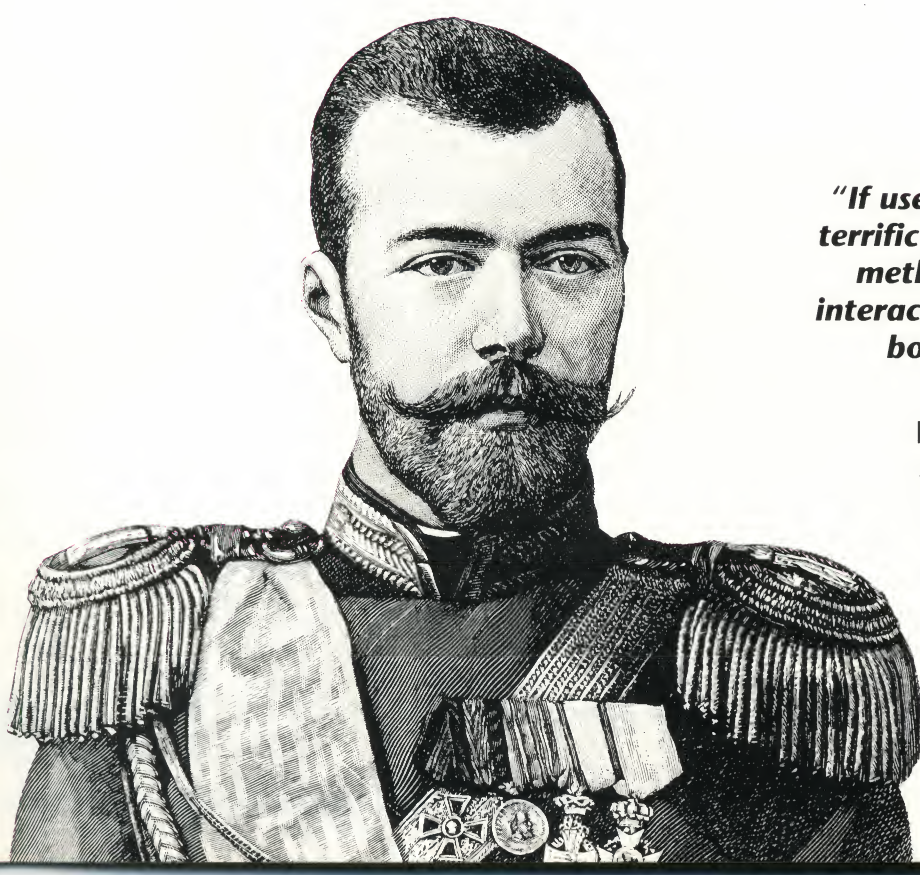
●*The AGE electronic newsletter.* The network becomes host for a world-class newspaper with reporters based all over the world. Schools take turns providing editorial guidleines for assembling the newsletter which can include news stories, sports, politics, entertainment, cartoons and digitized photos.

AGE sites presently include Austria, Belgium, Canada, Switzerland, the Dominican Republic, Denmark, Germany, the Netherlands, France, Spain, Scotland, Northern Ireland, England and Wales, New Zealand, Australia, the United States, Norway, Finland, Sweden, Israel and Turkey.

YOUTH WANTS TO KNOW

Florida Computer News has agreed to publish a monthly bilingual column produced by Miami Central students in conjunction with students from The Dominican Republic and other countries. Content will be under the supervision of the teachers. We think that AGE is one of the most exciting things that Apple or any other company has offered schools in years and that the network should be encouraged to grow. Said FIU's Dr. Tucker, "Conspicuously alone among the various computer manufacturers, Apple has taken the initiative to do this thing, and they have made the right decision. They appear to be sensitive to education at their top management levels and are taking the long term view which is consistent with my own thinking."

We strongly agree that it is in communities' and schools' best interests to encourage academic and intellectual growth rather than teach children yet another way to shop or "just say NO."



"If used properly, computers have terrific advantages over traditional methods of learning. They can interact with children in a way that books or lectures cannot."

– Dr. Alfred Bork,
Professor of Information
and Computer Science,
University of California

● Proyectos de investigación e investigación paralelo: Las escuelas participantes acuerdan en investigar un conjunto de categorías y registrarlas en una base de datos para comparar los resultados.

● El boletín de información electrónico de EGA. La red se convierte en huésped de un periódico mundial con reporteros ubicados en distintos lugares del mundo. Las escuelas se turnan al ofrecer lineamientos editoriales generales para producir el boletín de información en la cual pueden incluir artículos importantes, noticias deportivas, de políticas, de entretenimiento, caricaturas y fotografías digitalizadas.

Los sitios de EGA incluyen actualmente a Austria, Bélgica, Canadá, Suiza, la República Dominicana, Dinamarca, Alemania, los Países Escandinavos, Francia, España, Nueva Escocia, Irlanda del Norte, Inglaterra y Gales, Nueva Zelandia, Australia, los Estados Unidos, Noruega, Finlandia, Suecia, Israel y Turquía.

LA JUVENTUD DESEA SABER

La revista Florida Computer News ha acordado en publicar una columna mensual bilingüe producida por los estudiantes de la escuela secundaria Miami Central conjuntamente con los estudiantes de la República Dominicana y otros países. El contenido estará bajo la supervisión de los maestros. Pensamos que EGA es una de las cosas más emocionantes que la firma Apple o cualquier otra haya ofrecido a las escuelas en mucho tiempo y que la red debería ser estimulada a crecer. Como dijo el Dr. Tucker de la Universidad Internacional de la Florida, "Visiblemente, sóla entre los diversos fabricantes de computadoras, la firma Apple ha tomado la iniciativa de hacer este proyecto, y han hecho la decisión correcta. Aparentan ser sensitivos a la educación en los niveles de administración superior y se están proyectando a largo plazo en la educación, algo que es consistente con mi pensar."

Creemos fuertemente que está en el mejor de los intereses de las escuelas y comunidades el alentar el crecimiento académico e intelectual a estar enseñándole a los niños otro modo de comprar o simplemente decir "NO".

"De usarse apropiadamente, las computadoras tienen, grandes ventajas sobre los métodos tradicionales de aprendizaje. Estas interaccionan con niños en maneras no posibles por libros y disertaciones."



A PLACE IN THE SUN

by Jadie Christian

Narsingh Deo is the **Millican Professor of Computer Science** *at the University of Central Florida. The Charles Millican Chair was the UCF Computer Science Department's first million dollar endowed chair. Dr. Deo accepted the appointment to the Millican Chair in 1986. From 1977 to 1986 he was a professor of computer science at Washington State University, and was the department chairman from 1980 to 1983. He is a multitalented man with a long list of accomplishments.*

Deo received his PhD in Electrical Engineering from Northwestern University in 1965 while working with Burroughs Corporation in Pasadena, California. In 1966, he became a member of the technical staff at the Jet Propulsion Laboratory.

He won the Apollo Achievement Award at JPL for work done on components of the computer on board the Voyager spacecraft. He still holds patents from his work there.

From 1966 to 1969, Deo was an extension faculty member at UCLA. He left the Jet Propulsion Laboratory in 1971 to return to India, where he served as Professor of Electrical Engineering and Computer Science at the Indian Institute of Technology, Kanpur until 1977. In 1973 he was also a Visiting Associate Professor at the University of Illinois.

While at Washington University, Dr. Deo was a Visiting Professor at the Indian Institute of Science in 1983. In 1984 he was a member of the Visiting Faculty at IBM's Thomas J. Watson Research Center. He also holds visiting appointments at the Federal University at Rio De Janeiro and at the University of São Paulo.

Dr. Deo has published four computer science textbooks and over eighty papers in the computer science field. He holds numerous patents in computer hardware. Besides the Apollo Award, he has received the Gold Medal of Patna University, Drake Scholar at Cal Tech, the Govenor's Award for Outstanding Contribution to High Tech Research in Florida (1989), and the Distinguished Research Award - 1989 at the University of Central Florida.

Presently he serves on the editorial boards of the Journal of Supercomputing and the Journal of the IETE. He is currently researching discrete optimization algorithms, graph theory and parallel processing. During the 1989-90 academic year he will be heading the organization and implementation of a parallel processing center at UCF.

The Chairman of the Parallel Processing Team at UCF speaks out candidly on the future of the computer industry, the next technical revolution, Florida's flawed educational system and what can be done about it.

We visited Dr. Narsingh Deo on August 10th and August 21st, when he gave us his opinions on the direction Florida needs to take in order to grow as a technological state and the future direction of the computer revolution.

DEO ON THE REVOLUTION

FCN: What did you get the Apollo Award for?

DEO: I worked on the computer for the Voyager mission. I was at the Jet Propulsion lab for five years and there I designed parts of the on-board computer.

FCN: You were working on the hardware components then?

DEO: Yes that's right. The main criterion was that it should be extremely reliable. If you don't have a reliable machine it cannot be maintained like a machine on the ground that you can service every so often. This machine was to be autonomous, something that was planned for twelve to fourteen years that could operate in space without any hands-on operation.

Weight was also a consideration. It had to be light weight, so you couldn't put a large number of redundant machines in there. I had some patents on that, on the hardware, and some other designs.

FCN: I imagine it would be easier to do now with all

UN LUGAR EN EL SOL

por Jadie Christian

El Presidente del Equipo de Procesamiento en Paralelo de la Universidad Central de Florida (UCF) habla cándidamente sobre el futuro de la industria de computadoras, la próxima revolución técnica, el imperfecto sistema educacional de la Florida y qué se puede hacer acerca de ello.

Narsingh Deo es el Profesor Millican de Ciencia de Computación de la Universidad Central de Florida. La Fundación Charles Millican fue la primera organización dotada de un millón de dólares del Departamento de Ciencia de Computación de UCF.

El Dr. Deo aceptó el nombramiento a la Fundación Millican en 1986. Desde 1977 a 1986 fue profesor de ciencia de computación en la Universidad del Estado de Washington, y presidió dicho departamento desde 1980 hasta 1983. Es un hombre de muchos talentos con una larga lista de realizaciones.

Deo recibió su Doctorado en Electrotecnia de la Universidad de Northwestern en 1965 mientras trabajaba con la Corporación Burroughs en Pasadena, California. En 1966, se convirtió en un miembro técnico del Laboratorio de Propulsión A Chorro. Obtuvo el Premio Realización Apolo del Laboratorio de Propulsión A Chorro por su trabajo hecho en los componentes de la computadora a bordo de la nave espacial Voyager. Aún mantiene las patentes de su trabajo allí.

Desde 1966 a 1969, el Dr. Deo fue miembro de la extensión de la facultad en UCLA. En 1971 se fue del Laboratorio de Propulsión A Chorro para regresar a la India, donde trabajó como Profesor de Electrotecnia y Ciencia de Computación en el Instituto Indio de Tecnología, en Kanpur hasta 1977. En 1973 fue también Profesor Adjunto Visitante en la Universidad de Illinois.

Mientras estaba en la Universidad de Washington, el Dr. Deo fue un Profesor Visitante en el Instituto Indio de Ciencia en 1983. En 1984 fue miembro de la Facultad Visitante del Centro de Investigación Thomas J. Watson de la firma IBM. También tuvo nombramientos en la Universidad Federal de Rio de Janeiro y en la Universidad de Sao Paulo.

El Dr. Deo ha publicado cuatro libros de texto de ciencia de computación y sobre ochenta artículos en el campo de la ciencia de computación. Mantiene numerosas patentes de equipos de computación. Además del Premio Apolo, recibió la Medalla de Oro de la Universidad de Patna, el Escolar Drake en Cal Tech, el Premio del Gobernador por la Contribución Sobresaliente a la Investigación de Alta Tecnología en la Florida (1989), y el Premio de Investigación Distinguida, en 1989 en la Universidad Central de Florida.

Actualmente sirve en los departamentos editoriales del Journal of Supercomputing y el Journal of the IETE. Está investigando actualmente los algoritmos de optimización discretos, la teoría y el procesamiento en paralelo de gráficas. Durante el año académico de 1989-1990 estará encabezando la organización y la implementación de un centro de procesamiento en paralelo en UCF.

Tuvimos el privilegio de visitar al Dr. Narsingh Deo durante los días 10 y 21 de agosto, cuando nos dió sus opiniones acerca de la dirección que necesita tomar la Florida para crecer como un estado tecnológico y como el futuro de la revolución de computadoras.

EL DR. DEO EN LA REVOLUCION TECNOLOGICA

FCN: ¿Cuál fue la razón por la que usted obtuvo el Premio Apolo?

DEO: Trabajé en la computadora para la misión del Voyager. Estuve en el Laboratorio de Propulsión A Chorro por cinco años y allí diseñé partes de la computadora de abordo.

FCN: ¿Estuvo usted trabajando en los componentes del equipo entonces?

DR. DEO: Sí. Así es. Los criterios principales eran

Q: Does this mean all the software out there today will have to be re-written?

A: Yes...

the advances in chip technology.

DEO: That's right, yes. You can now put on more sophisticated functions and lower power consumption than was possible at that time. But the design techniques were still quite complicated even then. You have to radiation-harden for example. It has to go through the [Van Allen] radiation belts and that should not affect the function of the machine, [to compensate] you need express applications.

"In parallel processing we use smaller processors and connect a thousand or two thousand processors together."

FCN What is parallel processing and why is research in it so important?

DEO: Well in traditional sequential processing you use one processor. The supercomputers use huge processors and much of the engineering effort goes into making huge cooling systems for them to run efficiently. But even with the largest of the supercomputers there is a natural limit to what is possible, timewise. No matter how big they get, they cannot process individual commands faster than the speed of light. So there is a built in limitation in a sequential processor. This is not true in parallel processing. In parallel processing, we use smaller processors and connect a thousand or two thousand processors together. Then each processor can work on just a small portion of the problem to be solved and they communicate with each other very fast to update the progress. Maybe they communicate every three nanoseconds or so. The time factor, how fast they run, is increased greatly.

"Oil companies are big buyers of supercomputers, but the seismic instruments give more data than the computers can process. Parallel processing could handle this data."

FCN: What are some of the types of problems parallel processing can solve that sequential processing can't?

DEO: Well, weather prediction is one. Weather prediction has take so many variables into account and to be really accurate, one needs to use a fairly tight grid to represent the area. Right now, we can very accurately predict tomorrow's weather. But we won't get the answer until next week. So we use a more crude grid and less variables to predict the weather, but we sacrifice accuracy by doing that. By using multiple processors, working together, we can solve that problem.

Another application is in geology. Oil companies are big buyers of supercomputers, but the seismic instruments they use give more data than the computers can process. With parallel processing they could handle this data. Of course, parallel computers are much cheaper than a supercomputer. Processor chips are becoming very cheap, comparatively. We can take a chip that costs $75 and use a thousand of them to build a parallel machine that costs a hundred thousand dollars that can do everything a twenty five million dollar supercomputer can do. In the next five to ten years time even the personal computers will be using eight or sixteen processors in parallel.

FCN: Does this mean all the software out there today will have to be rewritten?

DEO: Yes, sequential programs will become obsolete. And we must train people to meet this need. Programmers out there today will have to learn how to parallel program to stay in the industry.

FCN: Programming for parallel computers is quite different then?

DEO: Yes, one must break the problem up into smaller parts. But this must be done in such a way that each processor has an almost equal task, time wise, so that when it's time for them to communicate with each other, they are all ready for the next task simultaneously.

FCN: In your parallel computing research, are you also working on hardware?

DEO: Not as closely as I used to. I work more on the software, but one has to be aware of what is going on with the hardware, of the internal architecture. You have to know how to be able to exploit it, to take advantage of it. In sequential processing you can treat a computer more like a black box.

In parallel processing you have to know exactly what is inside to partition your paths in the program such that your communication between the processors is minimized. And that would depend on how the processors are connected, for instance. Therefore how often they communicate depends on the design connections, whether they are linearly connected or whether they are two dimensional or hypercubed. Also how the information is processed: if it is one bit or if it is processed by multiple bits has a very strong bearing on how you design software for parallel processing. So that is why you need to know a great deal about the architecture to design realistic software

"Right now we can very accurately predict tomorrow's weather... but we won't get the answer until next week."

que deberían ser extremadamente confiables. Si se tiene una máquina confiable no se necesita darle mantenimiento así como a una máquina sobre el terreno, que se le tiene que dar servicio cada cierto tiempo.

Esta debería ser una máquina autónoma, de modo que algo que fue planificado para operar por 12 a 14 años en el espacio pudiese funcionar sin intervención manual.

El peso fue también tomado en consideración. Tenía que ser liviano, de modo que no se podía poner un gran número de máquinas redundantes abordo. De ese tengo algunas patentes tanto del equipo como de algunos otros diseños.

FCN: Me imagino que sería más fácil de realizar ahora con todos los avances tecnológicos de semiconductores.

DEO: Sí, por supuesto. Ahora se puede poner más funciones sofisticadas y consumir menos energía de lo que era posible en ese momento. Pero las técnicas de diseño fueron aún bastante complicadas hasta entonces. Por ejemplo, el endurecimiento por medio de la radiación que tiene que atravesar las correas de radiación de Van Allen y que no debería afectar la función de la máquina, para compensar se necesitan las aplicaciones expresas.

FCN: ¿Qué es el procesamiento en paralelo y por qué es importante su investigación?

DEO: Bueno, en el proceso secuencial tradicional se utiliza un procesador. Las supercomputadoras utilizan inmensas procesadoras y gran parte del esfuerzo de ingeniería va en fabricación de inmensos sistemas refrescantes para que tales funcionen eficientemente. Pero hasta con la mayor de las supercomputadoras hay un límite natural de lo que es posible, en cuanto a tiempo se refiere. No importa cuan grande estas sean, no pueden procesar los mandos individuales a mayor rapidez que la velocidad de la luz. Así que existe una limitación incorporada en un procesador secuencial. Esto no es cierto en el procesamiento en paralelo.

En el procesamiento en paralelo, se utilizan procesadores más pequeños y se conectan unas mil a dos mil precesadoras juntas. Entonces cada procesador puede trabajar justamente en una porción pequeña del problema que hay que resolver y se comunican entre sí rápidamente actualizando el progreso. Quizás se comuniquen entre sí cada tres nanosegundos aproximadamente. El factor tiempo, de cuan rápido trabajan, resulta en un gran aumento.

FCN: ¿Cuáles son algunos de los problemas que se resuelven con el procesamiento en paralelo que no se pueden resolver con el proceso secuencial?

DEO: Bueno, la predicción del clima es uno. La predicción del clima toma tantas variables en cuenta que para ser realmente exacta, se necesita utilizar una cuadrícula bastante ajustada para representar el área. En este momento, se puede predecir con exactitud el clima de mañana. Pero la respuesta no se obtiene hasta la semana siguiente. De modo que se utiliza una cuadrícula menos ajustada y un menor número de variables para predecir el clima, pero se sacrifica la precisión al hacer esto. Al utilizar los procesadores múltiples, trabajando juntos, se puede resolver ese problema.

Otra aplicación está en la geología. Las compañías de petróleo son grandes compradores de supercomputadoras, pero los instrumentos sísmicos que éstas utilizan producen más información de las que pueden procesar las computadoras.

Con el procesamiento en paralelo se puede manipular esta información. Por supuesto, las computadoras en paralelo son mucho más baratas que una supercomputadora.

Comparativamente, los semiconductores de procesadores se están volviendo bien baratas. Se puede tomar un semiconductor que cuesta $1,000 y utilizar unos mil de ellos para construir una máquina de paralelo que cueste unos cien mil dólares y que puede hacer todo lo que una supercomputadora de unos veinticinco millones de dólares. En los próximos cinco a diez años hasta las computadoras personales estarán utilizando ocho o dieciseis procesadores en paralelo.

FCN: ¿Significa esto que todos los programas existentes hoy tendrán que ser reescritos?

DEO: Sí, los programas secuenciales serán obsoletos. Y se debe entrenar personal para suplir esta necesidad. Los programadores tendrán que aprender a programar en paralelo para permancer en la industria.

FCN: ¿La programación de computadoras en paralelo es bastante diferente entonces?

DEO: Sí, se tiene que dividir el problema en partes más pequeñas. Pero esto tiene que estar hecho de

WHAT IS PARALLEL PROCESSING?

What is parallel processing? Parallel processing is really the melding of a new type of computer architecture and a new type software engineering.

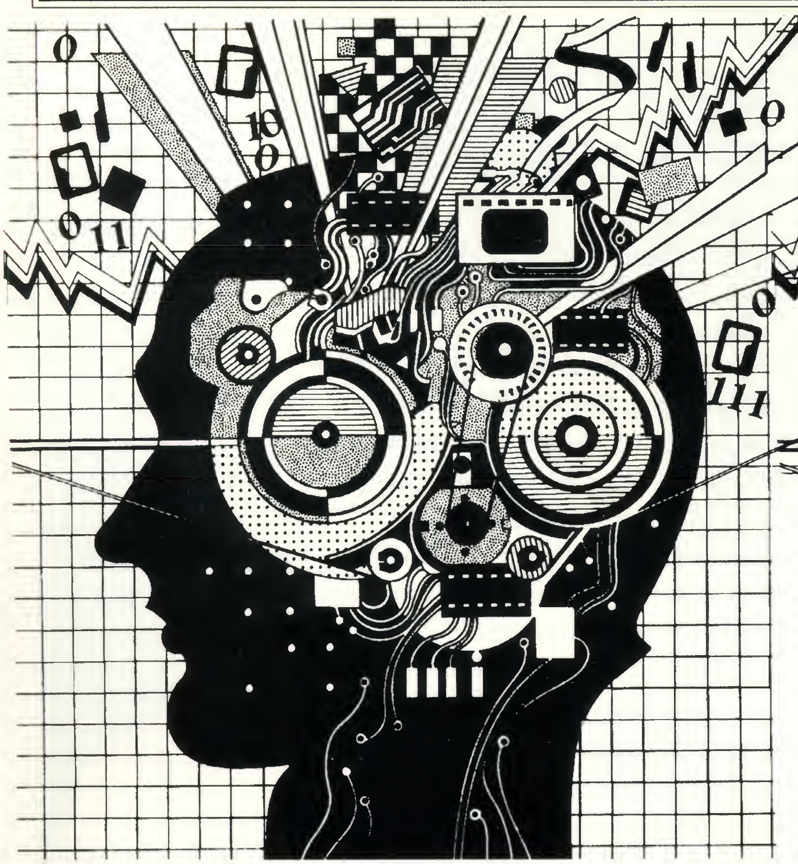
To make a faster, more powerful computer from today's standard sequential processors, the CPU chips must be made larger and larger. Eighty percent of the expense of super computers is incurred in the building and maintaining of the cooling system necessary for these large central processing units.

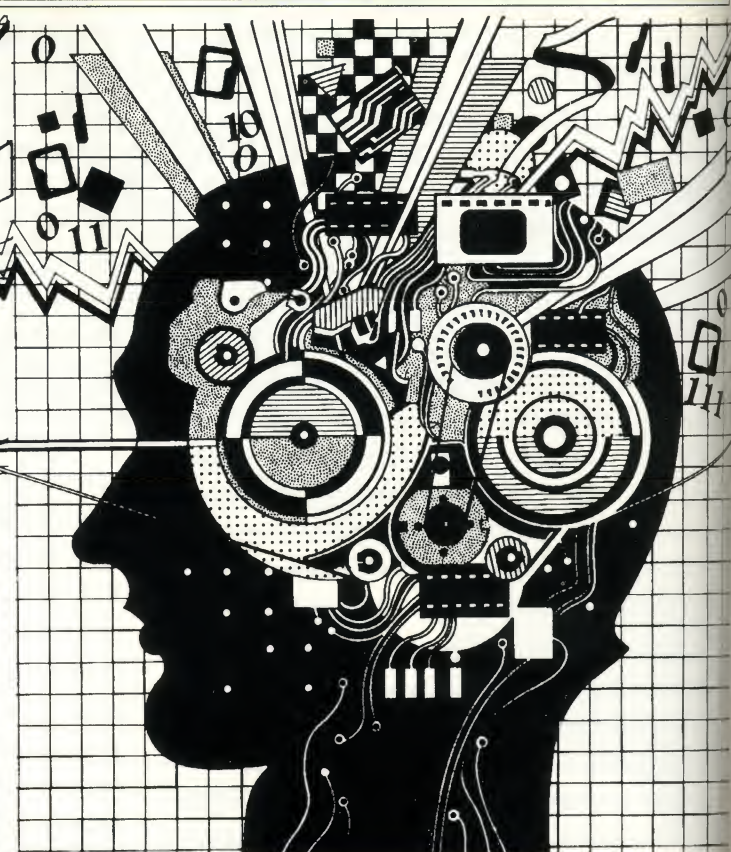
In a parallel processor, many micro chips are connected in a single machine. Theoretically there is no limit to how many processors can be hooked together. These machines do not require the vast cooling systems of their supercomputer cousins and are more economical to maintain. In the next five to ten years they will also be available in models that outperform the supercomputers of today.

On the software engineering side, sequential processors perform by doing one task at a time. They do it very fast, but even with time share systems, the CPU itself is only processing one instruction at a time. In parallel processing, however, the software engineer must break the task into subtasks, one subtask for every processor. To make full use of the speed potential of a parallel processor, the software engineer must try to make these subtasks as equal in the amount of processor time as possible. The processors constantly update each other. This allows processor 1 to proceed with it's next task even though its next task requires it to know a computation made by processor 1000 one or two steps back. The software engineer's task is so changed in parallel processing, that even the best of the sequential engineer's will have to have additional training. In Florida the only place to get this training is at the University of Central Florida. For more information on post graduate courses in parallel processing or information on the parallel processing center, write to:

University of Central Florida
Computer Science Department
Orlando, Florida 32816-0362

Parallel processors are already on the market. They vary in price and speed, but, with today's technology, 10,000 MIPS (million instructions per second) is a reasonable goal for a state of the art parallel processor. This is comparable to the speed available in a supercomputer that costs 50 times more.





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FROM THE PRESIDENT'S DESKTOP

Welcome to the Third Edition of the Somak Software Digest. The digest describes hundreds of programs that are not available from traditional sources, but distributed by Somak as shareware and publicly distributed software. Consequently, we are able to offer these software selections at prices substantially lower than you would expect. An entire disk of Somak software sells for only $8.99, or even less when ordered in quantity.

At Somak Software, we take special care in preparing our software selections for you. We compile our disks with the utmost care and planning to make sure you get a full disk of usable software. We intend to keep you as a happy, satisfied customer. We will do that by ultra-critical quality screening of all of our software, compatibility testing, detailed product descriptions, and FAST SERVICE! You can also rest assured that everything you receive from Somak is completely virus-free.

This edition of the Digest marks the beginning of Somak's entry into commercial software publishing with our exciting new ScriptEdit product for HyperCard. We're very excited about ScriptEdit, and we know you will be too. See the back cover of the Digest for details.

We've also packaged special five-disk sets of some of the best shareware software available, and are offering them at a reduced price. See page 18 for complete descriptions of these Sets.

Sincerely,

Robert Eberhardt

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ABOUT SHAREWARE

What is it?

Some software in the Digest is distributed as "shareware," a method of software distribution that cuts out the middleman. The software author doesn't have to pay for packaging, advertising and other marketing expenses, and the customer gets to do something very rare in the software marketplace — try out the programs on their own machine before deciding whether they are worth purchasing.

Shareware programs contain a notice, either in the program or the instructions, that asks the user to pay a registration fee directly to the author if they decide to continue using the software after they've tried it out. Sometimes this fee also entitles the user to upgrades or enhanced versions, or even expanded documentation.

Somak Software strongly encourages customers to pay the registration fee for shareware that they decide to keep and use. Usually this fee is very low; between $2 and $20. If the authors are not rewarded for their efforts, they may decide it's not worth it and we would lose their talents forever.

It's everyone's responsibility to be honest when it comes to shareware software. If you like a shareware program and decide to keep it, please send your registration fee to the author and keep the shareware system alive.

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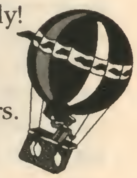
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Powerful productivity tools for your small business.



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Fast action and adventure for the whole family!



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Business Software 1 $8.99

Six powerful programs for your small business, including a full-featured spreadsheet and a UPS shipping manifest database!

Amortize 2.4 (shareware)
Calculate loan amortization schedules quickly and easily with this excellent program. Schedules can be printed directly or saved as text files for use in other applications.

BiPlane 1.02 (shareware)
A full-featured spreadsheet in a desk accessory. Also includes a stand-alone version with additional functions, larger worksheet size, and other enhancements.

C2 =B2*1.2

HOME	A	B	C	D	E	F
1		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	TOTAL
2	Sales	10000	[illegible]	14400	17280	53680
3	Cost	6500	7800	9360	11232	34892
4	Profit	3500	4200	5040	6048	18788

Shipper Plus (demo)
Automate your UPS shipping! Shipper Plus can look up shipping rates, print daily reports, and even print a manifest for your UPS driver!

Financial Calc (shareware)
A versatile calculator with six functions. Calculate the time value of money with compound amount, sinking fund, capital recovery, and other functions.

Address Book 1.9 (shareware)
Find those important addresses and phone numbers instantly with this handy program. If you have a modem, it can even dial your phone automatically! Address Book comes in DA and application versions.

Option Pricer
Value puts and calls in your stock portfolio. Enter six pieces of information, such as the current stock price, expiration day of the option, etc. and Option Pricer will evaluate the situation and recommend whether to hold or sell the call or put.

102

SoftStart Worksheets $8.99

A collection of worksheets for personal finance and business analysis. Requires Microsoft Excel or Microsoft Multiplan.

Personal finance worksheets (shareware)
Included are worksheets and instructions for investment analysis, portfolio management, budgeting, mortgage analysis, and checkbook and credit card management.

Business analysis worksheets (shareware)
Includes cash flow budgeting, payables/receivables analysis, break-even analysis, and an integrated set of payroll templates.

103

Worksheets for Excel 1 $8.99

Eighteen worksheets and macros, plus a unique add-on application. Requires Microsoft Excel.

Pegboard (shareware)
A bookkeeping system for small business.

Car Loan
Calculate payment amounts for auto loans.

Conversion Tables (shareware)
Over 150 unit and currency conversions.

MacDep
A macro to figure straight-line depreciation.

Optima Best Answer (demo)
An optimization add-on for Excel.

Plus fourteen more worksheets and macros:
Bi-Weekly Mortgage, Cellular Phone, Closing Costs, Increments, Loan Schedule, Mortgage Refinance, Interest Calculator, Point-To-Point, Fourier (shareware), MortAmt Macro (shareware), Print Macro, Regression Macro, Schwab (shareware) and Excel Shortcuts.

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104

HomeWare 1 $8.99

Six programs to help make your home life more efficient... and more fun!

Home Inventory (shareware)
This program maintains an inventory of your possessions, including purchase prices, serial numbers, and descriptions.

Form It! (shareware)
A powerful form management system for home or office. With Form It!, you can make all your data entry tasks faster, easier, and more automated. It will turn any PICT or MacPaint image into a form, and then help you fill in the blanks, storing each record in a data file as you type!

Household Shopper
Save time at the market with automated shopping lists. Mark the things you need from a built-in list of common items. You can also add your own items and categories. Then, print a list and go shopping. Household Shopper will even mark those items that you have coupons for!

CK 2.1 (shareware)
A complete checkbook accounting system. A variety of reports can be generated and the program also includes functions to automatically reconcile the checkbook against a bank statement. Complete on-line help is built into the program.

MacAuto (demo)
Mac Auto makes it easy to keep your automotive records straight! Track your gas mileage, gas costs, repair costs, and more. This demo version does not save or print.

Mac's Bar (shareware)
Keep track of your favorite bar recipes. Withover 100 built-in recipes, you may never have to add any recipes to Mac's Bar. But if you do have some favorites, keeping track of them is a snap. Drinks can be located by name, or by a specific ingredient.

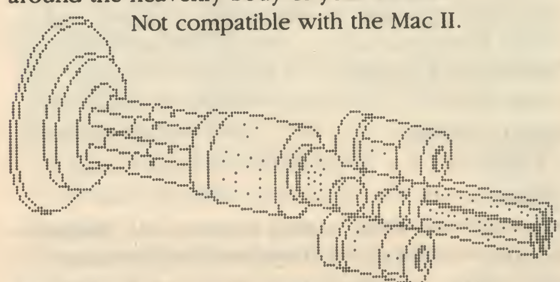
105

Stars and Planets $8.99

Explore the mysteries of the universe, with a faster-than-light journey to the fringes of the galaxy!

Gravitation 2.5
The most fun you'll ever have learning about planetary interaction! Learn about the force of gravity, and how the planets interact with each other. Includes 64 samples illustrating simple orbital motion, pulsars, planetary collisions, and more! Also included are Orbit, a planetary simulation to Gravitation, and Planets 2.0, a 3-D planetary simulator that works in color on the Mac II!

Orion 1.75
Fly a spaceship and explore our solar system and nearby stars. Climb behind the wheel of theOrion starship and reach speeds of several million times the speed of light! Learn about the planets and stars you pass. You can even try to achieve a stable orbit around the heavenly body of your choice!
Not compatible with the Mac II.



Star Chart 2.0
Learn to recognize the stars and constellations of the night sky. Eighty constellations are built into the program, and the stars can also be drawn from any specified ascension, declination, and view angle.

EarthPlot 3.0
Draw a map of Earth from space, and learn about the continents. Type in any latitude, longitude, and altitude and EarthPlot will draw a globe-shaped map of the Earth, in either bit-mapped or PICT format. Works in color on the Mac II!

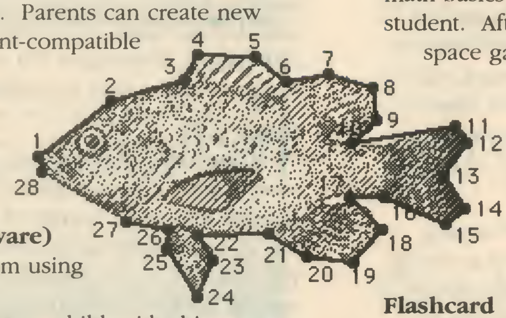
Also on disk 105: Bright Stars (shareware), StarGazer (shareware), and Full Moon.

106

Preschool Programs $8.99

Six activity programs for the youngest Macintosh user. No reading skills are required.

Dot-to-Dot (shareware)
Help your child learn numbers, letters, and words. Designed for ages 4 to 8, the Dot-to-Dot Construction Set combines elements of a child's dot-to-dot coloring book with a non-violent hangman game and picture puzzle. Parents can create new puzzles with any MacPaint-compatible drawing program.



Natalia's Dots (shareware)
A traditional dot-to-dot game with 26 puzzles.

Pattern Blocks (shareware)
A simple drawing program using geometric patterns.
Encourage creativity in your child with this simple drawing program. One of twelve different blocks can be dragged into the drawing area to create a picture. Parents can customize each block.

Kieran (demo)
A computer voice helps your child learn to read, count, and tell time. This demonstration contains only a portion of the original program, but will give you an overview of the complete Kieran program.

Something's Hidden Here!
A picture recognition game for kids. Click on one of the 38 puzzle buttons, and a picture will flash on the screen for an instant. As the child tries to guess what was in the picture, more and more of the image can be revealed by moving the 'decoder' (also known as a mouse!) across the image.

Halloween Night! (shareware)
Help young children overcome their Halloween fears. Even the youngest children want to be a part of Halloween. This program helps your kids understand the holiday, with animated characters who come to the door for candy!

107

Beginning Math $8.99

Help develop their math skills early with these fun and educational programs for the beginning math student.

MacMath (demo)
A four-part program, including a high-speed math game! A friendly alien guides your child through the math basics, first by teaching, then by testing the student. After all that hard work, an exciting outer-space game is included in which the student must shoot down the correct answer to each problem!

HeloMath (shareware)
Practice your math skills as you pilot a high-flying copter! Fly across the mountains, blast the correct answers, and make it back to base in time!

Flashcard
A flashcard builder for repetitive-enforcement learning. Children have learned with flashcards for years. Now, they can practice their skills on the computer! A set of multiplication cards is included, and parents can create their own flashcards easily.

Math Factory (demo)
A fun, flexible way to learn beginning math skills. This program tracks a student's day-to-day progress, and provides ten adjustable skill levels, to make sure the program grows as the student's skills increase. This demo version teaches only addition, but the complete program includes subtraction, multiplication, division, and fractions.



Please read the shareware info on page 2! Reward shareware authors for their efforts. We will all benefit from their work.

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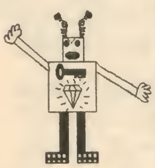
Game Stacks for Kids $8.99

Created in HyperCard especially for kids, by kids.

Dragonsword
Escape the cave, kill the dragon, and rescue the beautiful damsel! Written by 12 year old Nat Ingalls, with Andy Ingalls helping out in the art department.



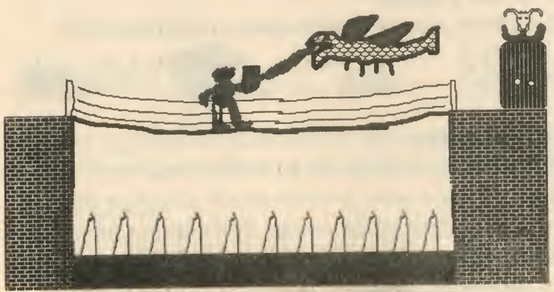
Animals (shareware)
Think of an animal, and the Mac will try to guess it!



K'Kai Adventure
Explore a magical castle under the sea, and make new friends! The second grade class of Kaunakakai Elementary in Hawaii created this adventure.

Mr. Potato Head
Roll the dice, and see how fast you can complete your potato man in this classic children's favorite.

Knight Adventure (shareware)
Even kids that can't read yet will like this game! Ten year old Marshall Ward made this crazy adventure. There's danger at every turn unless you make the right decisions.



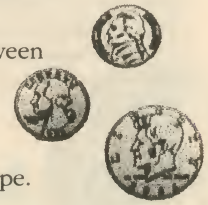
KidStacks Collection $8.99

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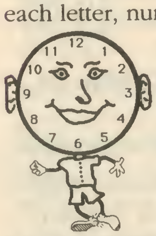
An integrated collection of stacks for preschool age children that actually talk as they teach!

The KidStacks collection consists of eight integrated stacks that teach youngsters the basics of the alphabet, numbers, simple math, shape recognition, counting, money, and time. All stacks are accompanied by a synthesized voice that talks to the child as they learn. This disk requires HyperCard.

Money
This teaches the relationships between different coins and paper money.



ABC's
This stack teaches how to draw each letter, number, and basic shape.



Time
Your child will learn how to tell time from a friendly clock person!

Math
Simple addition and subtraction problems are presented here.

Lessons in Spelling
A picture and pronunciation will reinforce each word.

People
For the older child... Learn to recognize policemen, presidents, and others.





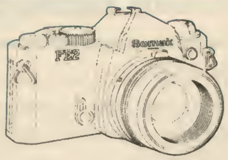
Laura's Letters
This uses a digital human voice to teach the alphabet and numbers!

Map
Let your child explore a house, move from room to room, even take a drive! This stack presents an overhead map of a house, and simply by moving the mouse, your child can move between rooms. Clicking on the names of pieces of furniture and other fixtures will display and speak their names. Once they've found their way outside, the child can actually get into the family car and take a drive.

218

MacPhotography Demo $8.99

Practice the basics of photography and darkroom procedure.



This animated presentation helps you learn basic photography concepts and procedures by showing you how they're done while you read about them! Created by Joseph Ciaglia, a professional photographer, the MacPhotography Workshop will teach you about developing film, enlarging, photo composition, and more! Also includes **Camera**, a program that demonstrates the relationship between f. stop, shutter speed and film speed.

219

Vietnam Stack $8.99

Learn about this important time in our country's history.

The Tet offensive, the fall of Saigon… these events altered the course of history forever. This Vietnam HyperCard History Book has over 300 cards of information on the background events, personalities, and other issues surrounding the war in Vietnam. Extensive graphics, animated maps and charts, thought provoking questions and complete cross-referencing make this one of the most valuable tools ever created for studying the war. A complete bibliography is also provided.



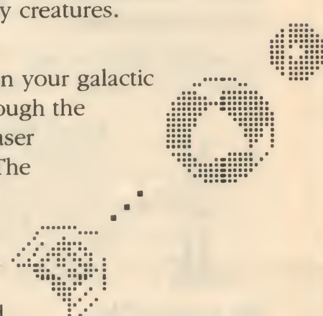
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Arcade Games 1 $8.99

Nine exciting games that bring the arcade action home! Battle giant insects, rescue astronauts, explore a space station and more!

Centipede
Fight off an insect invasion in this Mac adaptation of the arcade classic! Become the ultimate pest control service while you fight off deadly mutant centipedes, spiders, fleas, and other nasty creatures.

Continuum (shareware)
Explore 60 different worlds in your galactic gunship! Pilot your ship through the solar wind while you blast laser cannons and pick up fuel. The game includes 60 different levels, each with a different map and layout. Plus, with the built-in editor, you can create your own worlds, and modify every game setting!



Iggy Iggopolis
Help Iggy conquer the void by laying down his special fences! In this high-speed geometric challenge, based on the classic arcade game QIX, you'll have to fence off enough of the void to capture the deadly ZUUL.

Let's Get Tanked!
Go one-on-one with a computer controlled tank!



Lunar Lander
Choose your landing site carefully, because you'll need a steady hand to settle down safely on the uneven surface of the moon. For another great lunar lander game, see page 9. This game does not work on the Mac II.

MacMissiles (shareware)
A nuclear nightmare come true! You are the controller of the S.D.I. (Star Wars) defense system in this classic missile defense game. How long can you protect six major cities from nuclear destruction?

Purchase more disks for extra value.
6 - 15 disks are only $8.49 each.
16-25 disks are only $7.99 each.
26 or more are only $7.49 each.

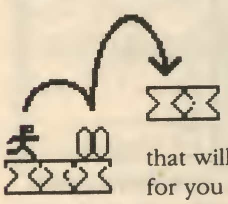
MacLanding (shareware)
Defend your astronauts from an alien kidnapping ring! You'll have to keep moving to watch over an entire planet full of careless astronauts, who are being absconded by sneaky aliens as fast as you can rescue them! Does not work on Mac II or SE/30.



Megaroids Plus
Battle your way out of the center of an asteroid belt! You're caught in the middle of a dense asteroid field, with only your wits and your laser to blast your way out!



Spacestation Pheta (shareware)
Climb and jump your way out of the station! This game will put your dexterity (and your strategy) to the test! Ten increasingly more difficult levels will challenge you, and when you register with the author, you'll receive a code that will "unlock" 70 additional levels for you to play! And, if that weren't enough, the game features a built-in editor, so you can create and play your own levels too!



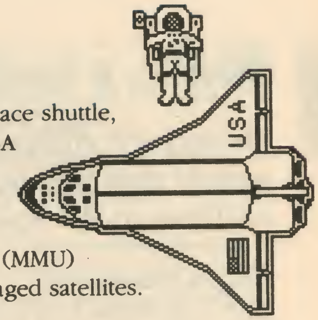
213

Arcade Games 2 $8.99

More excellent action games!

Lunar Lander
Land the lunar module while listening to actual cockpit voice transmissions recorded from the Apollo 11 mission! Created in honor of the 20th anniversary of the Apollo 11 moon landing, this fun game puts you "behind the wheel" of the lunar landing craft. Don't run out of fuel too soon or you may make the moon your permanent home! Requires HyperCard.

Shuttle '88 (shareware)
Take the controls of the space shuttle, and dock safely at the NASA space station. Along the way, you'll use the remote manipulator arm and manned maneuvering unit (MMU) to capture and repair damaged satellites.



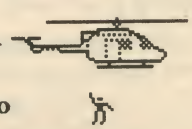
Star 'Roids (shareware)
This new version of the classic asteroid game features is a high-speed challenge for even the most experienced arcade fan. You'll have to avoid chunks of space debris moving at incredible speeds, with only your magnetic cannon and hyperspace controls between you and oblivion!

Hot Air Balloon (shareware)
Pilot your balloon over hills and valleys while avoiding pesky storks, telephone poles and other obstacles.



Beast (shareware)
Trapped in a maze of shifting walls, pursued by big, hairy beasts, you'll need every bit of dexterity and planning at your disposal to trap the creatures and escape the maze with your life!

Hometown Software Game Pack
This collection of four outstanding games, recently re-released in memory of programmer Duane Blehm, will make a valuable addition to your collection: Visit an ancient Egyptian shooting gallery in **Cairo Shootout** (not compatible with Mac II – sorry), play the part of a daring stuntman in the whimsical **StuntCopter**, sharpen your outer space dexterity in **ZeroGravity**, and create and put together jigsaw puzzles from any paint picture with **Puzz'l**.





Place your order today!
(800) 842-5020
This number is for orders only.
For other information call (619) 942-2556.

109 Puzzles & Strategy 1 $8.99

Over thirty different puzzles and games that will put your strategic abilities to the test!

Dragon (shareware)
Help save Bosnia from a fire-breathing dragon.

Stratego®
Find and capture the Mac's flag in this classic strategy board game! Use your marshals, scouts, spies, miners, and other soldiers to find and destroy the enemy flag. But be careful! Hidden bombs will throw you off the track, and destroy your men in the process! Stratego is a registered trademark of the Milton Bradley Company.



BlobManager
Sixteen puzzles and games in one program! Yes, the name is strange, but the games and puzzles are great. Play Hangman, Magic Square, Fox-Goose-Grain, Fish Sticks, State Capitals, Coin Swap, and ten more.

MysteryBox (shareware)
Find the hidden balls by firing rays into the Mystery Box and seeing if they are reflected out or absorbed.

Enigma (shareware)
If you liked Rubik's cube, you'll love Enigma's locking rings puzzle.

PegPuzzlePak (shareware)
Four different puzzles in one! Can you solve them all? These classic puzzles are solved by jumping pegs over each other into empty holes.

Tablut
It's the Muscovites vs. the Swedes in this strategy board game for 2 players.

ThinkAhead Plus (shareware)
You'll need to think ahead to outwit your opponent…

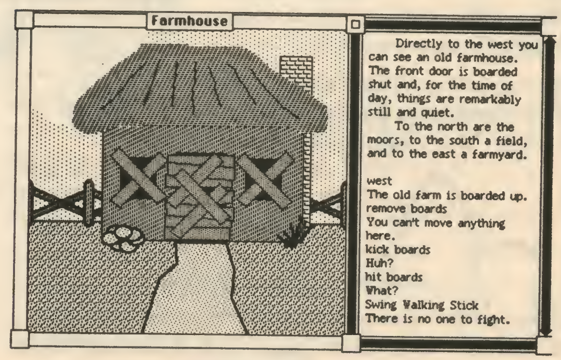
Also included: Towers of Hanoi, 2D and 3D Maze Games, MacPuzzle and Hex Puzzle.



110 Adventure Games $8.99

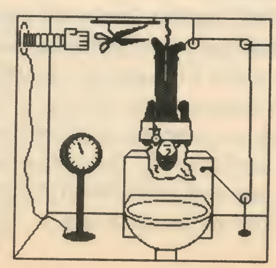
Tired of shoot-em-up games? Put your brain to work with two "interactive novels" that make you the main character in an exciting adventure story!

The Village (shareware)
A medieval tale of mystic temples and ancient relics. Something's rotten in the village of Darmothe…the priests of the Stone Temple are up to no good and the villagers are helpless! Can you save the village (not to mention your own neck), or will you become another victim?



EveryMan Adventure #1 (shareware)
Go from mild-mannered to major muscle! Your friends and neighbors know you as an average guy. What they don't know is that beneath that meek exterior you are EveryMan, a super-duper hero lifted from the pages of the comic books to defend goodness and fight badness. Also be sure to get disk 154, Everyman II, for the continuing adventures of Everyman as he ventures into outer space to save the Earth from evil aliens! It's a blast!





Somak Software, Inc.
535 Encinitas Blvd., #113, Encinitas, CA 92024
(619) 942-2556 FAX (619) 632-9087

111

Phoenix Disk 1 $8.99

If you liked the movies 2001 and 2010, you'll love this game!

The Phoenix
Return to the Discovery in the year 2066 for a little sci-fi sleuthing. Based on the hit science fiction movies 2001 and 2010, this game features an abundance of digitized scenes and sound effects from the films. For the best results, you'll also want to order disk 112 (below), which contains a huge add-on sound file that provides the voice of the treacherous HAL9000 computer system.

Also included: Colossal Cave Adventure (shareware) and Strange Hotel (shareware).

112

Phoenix Disk 2 $8.99

Turn your Mac into a talking HAL computer with this companion to disk 111. Includes 2 bonus games.

HAL Files
A companion sound file for The Phoenix adventure game. This file is not required to play The Phoenix (disk 111), but will greatly enhance the game. Place this file in the same folder as the game itself, and the pesky HAL9000 computer will come to life, speaking to you as you play!

The Journey (shareware)
Repair your ship and blast off in this text adventure.

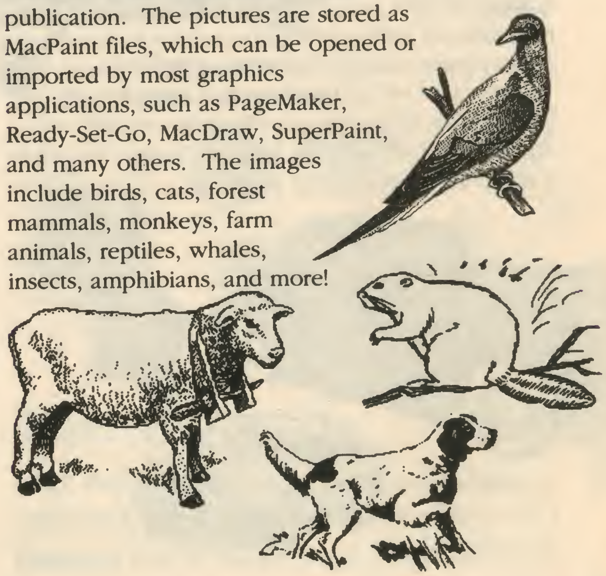
The Venice Project (shareware)
Hack into a mainframe and prevent disaster! In this unique game, you are a young computer "hacker" attempting to break into a large mainframe computer system. But your intentions are good... the world is doomed unless you can defuse the situation through the mainframe.

113

Animal Clip Art 1 $8.99

Spice up your newsletters, pamphlets, and publications with 52 different images from the animal kingdom.

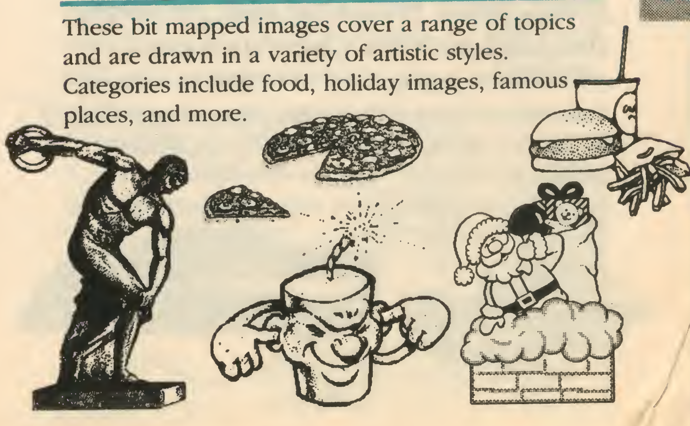
This disk contains a collection of bit-mapped images that can be easily incorporated into almost any publication. The pictures are stored as MacPaint files, which can be opened or imported by most graphics applications, such as PageMaker, Ready-Set-Go, MacDraw, SuperPaint, and many others. The images include birds, cats, forest mammals, monkeys, farm animals, reptiles, whales, insects, amphibians, and more!



115

Misc. Clip Art 1 $8.99

These bit mapped images cover a range of topics and are drawn in a variety of artistic styles. Categories include food, holiday images, famous places, and more.



Place your order today!

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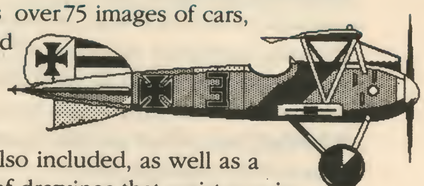
This number is for orders only.
For other information call (619) 942-2556.

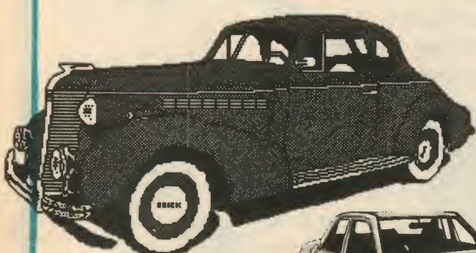
114

Wheels and Wings $8.99

These pictures are perfect for posters, ads, invitations, and just about any publishing project.

This disk includes over 75 images of cars, trains, airplanes and motorcycles. A number of auto manufacturer and railway logos are also included, as well as a "construction set" of drawings that assist you in drawing '64-'68 model year Mustangs yourself. All images are in bit-mapped MacPaint format for use in a wide variety of drawing programs.









132

The serious car buff will love this stack, filled with info and pictures for 1961 to 1976 Chevrolet cars.

This stack features statistics, emblems, tables, charts, production specs, and other info for 53 different models of Chevrolet Super Sport Impala, Chevelle, Camaro, Nova, and Malibu cars. You'll love it! This disk requires HyperCard.



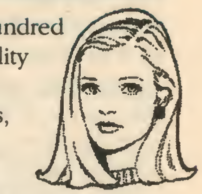


135

Bill's Clip Art Stack $8.99

Five hundred different images in one HyperCard stack, indexed for easy location and selection!

This enormous stack contains five hundred different cards, each with a high-quality digitized image. Categories include people, animals, famous places, tools, home appliances, old-fashioned cars, holiday images, borders, ornamental scrolls, and even pre-Columbian pottery!



Most of the images have keywords associated with them. This makes it quick and easy to find the picture you need. The pictures can be used with any program that works with MacPaint style graphics, such as PageMaker, Ready-Set-Go, SuperPaint, MacDraw, and many others.



Please read the shareware info on page 2!
Reward shareware authors for their efforts.
We will all benefit from their work.

214

Artworks StackArt $8.99

Over 100 quality clip art images for your newsletters and other publishing projects.



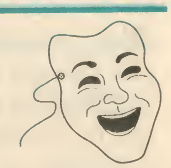
(Shareware) Artworks has created this excellent collection of scanned clip-art, and offered it as a HyperCard stack for easy browsing. After sending in your shareware registration fee, you'll be sent another collection of comparable artwork. This disk requires HyperCard.



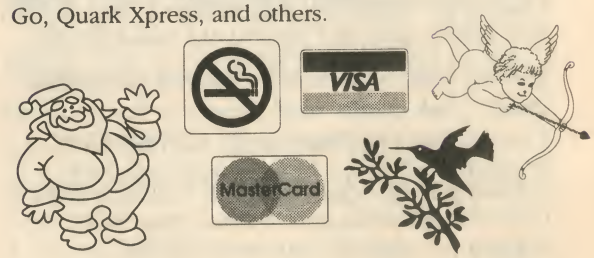
116

Laser Art 1 $8.99

LaserWriter art that prints at the highest quality, even after stretching and resizing!



The artwork on this disk requires a LaserWriter or other PostScript-compatible printer. The art can be used with any program that can use the Encapsulated Postscript format (EPS), such as PageMaker, Ready-Set-Go, Quark Xpress, and others.



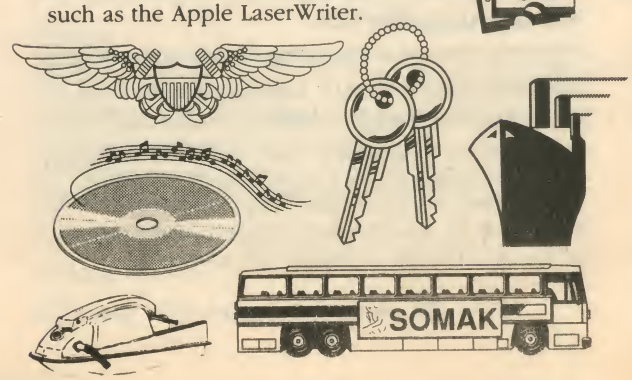
217

Laser Art 8 $8.99

Our newest volume of PostScript artwork features 41 top-quality images for a variety of purposes.



This high-quality art can be used with any program that can works with the EPS format, such as PageMaker, Ready-Set-Go, Quark Xpress, and others. Requires a PostScript printer, such as the Apple LaserWriter.



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117 Near LQ Fonts 1 — $8.99

Three fonts that produce near letter quality output on any ImageWriter printer.

Alexis – Includes serif and sans serif versions, and a variety of bullets and symbols.
Designed by a professional printer, Alexis is one of the most legible bit mapped fonts available. It includes light and medium faces, sizes from 8 to 48 point, rules, boxes, and other special characters and symbols.

Beverly Hills (shareware) – One of the all-time classic high quality serif fonts.
The Beverly Hills font family was designed to be a formal, highly readable serif font that doesn't look "computerized." It comes in sizes from 9 to 48 point, and is one of the most popular bit mapped fonts ever created.

Palencia (shareware) – A hot serif font from Andrew Welch, "Mr. Shareware!"
Besides beatiful print quality, Palencia includes a unique integrated instruction manual that offers tips on using the font effectively. Character reference charts are also included.

118 Near LQ Fonts 2 — $8.99

Three more high-quality fonts for your ImageWriter.

Alderney (shareware) – Another quality font from Andrew Welch, creator of Palencia.
Alderney is a beautiful sans serif font that comes in sizes from 9 to 48 point. Pair it with Palencia, from disk 117, and you'll have two of the best bit mapped fonts ever produced for the ImageWriter printers.

Clairvaux (shareware) – A serif font with elements of Palatino & PostMedieval Light.
Clairvaux comes in ten different sizes, from 9 to 48 point, and also includes Clairvaux Caps, a special-purpose font for creating large inital caps and majuscules. Clairvaux is a dense, angled font with straight serifs, and looks great on screen and on paper.

Neshota (shareware) – This sans serif font will become one of your favorites!
Neshota is one of the most complete bit mapped font families available! It comes in a whopping 22 different sizes, from 8 to72 point. Because so many sizes are included, it works very well with the ImageWriter LQ and other triple-size bit mapped printers.

119 Display Fonts 1 — $8.99

On this disk you'll find 56 individual fonts, in a variety of sizes, for any ImageWriter printer. They are typically large and stylized, perfect for posters, headlines, flyers, and other special-purpose uses. Make sure to also get disk 182 for another collection of great display fonts.



Purchase more disks for extra value
6 – 15 disks are only $8.49 each
16-25 disks are only $7.99 each
26 or more are only $7.49 each

120

LaserFonts 1 $8.99

Eleven quality downloadable fonts for the LaserWriter and other PostScript-compatible printers.

Alison (shareware)

ABCDEFGHIJK
abcdefgh 123456 !@%&

D. Ross Fonts (shareware demos)

ARCHITECT SAMPLE DRAFTSMAN
DEMO **SKETCH abc 123**

Bill's Dingbats (shareware)



Canaith (shareware)

ABCDEFGHIJKLMNOPQRSTUVWXY
abcdefghijklmno 1234567 !@$%&

ChiTown

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstu 1234 !@&

Helvetica Fractions (shareware)

1/1 1/1 1/1 1/2 1/3 · 1/4 1/5 1/6 · 1/7 1/8 1/9 · 2/2 2/3 3/4 · 2/5 5/6 2/7 · 3/8 2/9 0/1 · 4/9 5/8 3/7 · 4/7 4/5 0/3

OCR

ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890 YJ H %|&*{}$

Rodchenko (shareware)

ABCDEFGHIJKLMNOPQRSTU
abcdefghijklmnop12345 !$%&

Sans Serif (shareware)

ABCDEFGHIJKLMNOPQ
abcdefghijkl 12345 !@$&

LaserFonts 2 $8.99

121

Ten more downloadable PostScript fonts for your LaserWriter printer.

CuneiFont (shareware)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrst123456

Flintstone (shareware)

ABCDEFGHIJKLMNOPQRST
ABCDEFGHIJKLMNOP 123

Kathlita (shareware)

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz 12345 !@$

Louisville (shareware demo, missing some letters)

A CDEFGHI KLM OP RSTU WX @$
abcdefghi klmnopqrstuvwxyz 12345 7

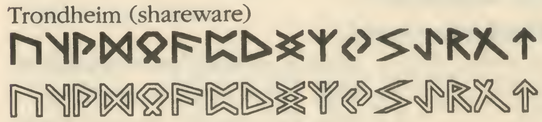
ModernPrint Bold (shareware)

ABCDEFGHIJKLMNOPQRSTUVWXYZ #!@$
abcdefghijklmnopq rstuvwxyz 1234567890

Thomas

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuv 1234567890

Trondheim (shareware)



Chester

ABCDEFGHIJKLMNOPQ
abcdefghijklmnopqrstu

IBM Klone

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefgh1234567

Chicago Symbols

⌘✓◆ ⌘✓◆ ⌘✓◆ ⌘✓◇

Place your order today!

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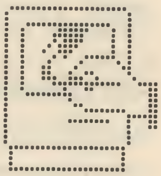
This number is for orders only.
For other information call (619) 942-2556.

122

Startup INIT Utilities 1 $8.99

22 programs that install automatically and add great new features to your Macintosh!

AutoIdle
An automatic screen saver utility that prolongs the life of your monitor. After long periods of inactivity, your screen may develop "burn-in," or a retention of screen images. This utility will automatically blank your screen after a specified period of inactivity, and prolong the life of your screen!

Backdrop

Kick the gray habit! Use any MacPaint picture as a background pattern. Three samples are included. Backdrop does not work on the Macintosh II.

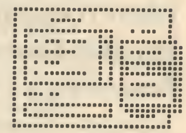
BigScreen (shareware)
A simulated big screen display for MacPlus owners. This turns your screen into a "window" on a larger page area, simulating the performance of a big-screen Mac. BigScreen works only on the MacPlus.

Curly Quotes
Two different programs that provide printers' quotes as you type. Straight quotation marks are easy to type, but don't look as good as the curly marks when printed. These programs will make the switch for you automatically.

F1-F4 (shareware)

Make your extended keyboard do what it was meant to do! If you have the extended keyboard with function keys, this will make the first four (F1-F4) actually perform the functions they are labeled for (undo, cut, copy and paste).

Fontsie (shareware)
Use fonts on the fly any time you want, without installing them! If you use certain fonts infrequently, why should you have to install them? Well, with Fontsie you don't! Keep those fonts in a special folder, and any time you need them, they can be temporarily installed.

MFMenu Plus
Use MultiFinder? You'll love this! Switch between programs easily. Do you find yourself dragging down to the bottom of your Apple menu constantly to switch between programs in MultiFinder? MFMenuPlus creates a pop-up menu with a list of your open applications.


SelText
Patches the dialog box routines to automatically select a default text item.

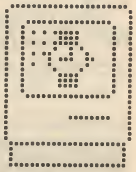
SFVol (shareware)
This one is hot! Instead of clicking the Drive button repeatedly to select the disk you want to work with, use SFVol's pop-up menu to select that disk directly! New folders can be created, and the amount of free space is displayed in all Open and Save dialogs.

TattleTale (shareware)
Keeps tabs on your other INITs & logs their activity!

Welcome2
Turn on your Mac, and it will greet you with a spoken message.

PopIt! and PopUp (shareware)
Select any menu item from anywhere on the screen!

INIT Manager Demo
Let's you keep your INITs in any folder and log their activity. This demo doesn't actually do anything, but explains in detail how INIT Manager can make dealing with a lot of INIT utilities much easier.

Seven more INIT utilities are also included: Insure, MacWait, AutoCursor, Reverse Screen, CrashSaver, Enchanted Menus, and CursorWrap.


Somak Software, Inc.
535 Encinitas Blvd., #113, Encinitas, CA 92024
(619) 942-2556 FAX (619) 632-9087

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Startup INIT Utilities 2 $8.99

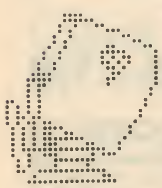
More programs to customize and supercharge your Macintosh.



Oscar
You've always suspected he was in there somewhere... Now, each time you empty the trash, Oscar the Grouch will rise up out of your trash can, and sing a little song to you before disposing of your unwanted files!

Resurrection
The Resurrection INIT will open the desk accessory of your choice automatically each time you start your Mac. This is especially handy if you use a DA spelling checker or other frequently used utility.

MacPuke
This famous INIT is for those with a strong stomach only! Marvel as your Mac makes a distinctively human sound each time a disk is ejected!



Hello
The "Welcome to Macintosh" message as it was ment to be! Throw this icon into your System Folder, and your Mac will greet you with a pleasant human voice each time you turn it on.

Chime
Now your Mac's clock can chime the time! We've included four different sounds that can be used individually or together, from a tiny cuckoo clock to the bells of Big Ben!

Last Boot
Each time you start up your Macintosh, this INIT will display a message letting you know when the last time your Mac was used, and for how long.



FullWrite Diddler
FullWrite Professional can't normally use special utilities like On Cue and other pop-up menus. This INIT, by the author of On Cue, fixes that problem and makes FullWrite behave itself.

Tempo Menu
If you use Tempo II, you'll love this utility! It sets up a pop-up menu listing your favorite Tempo II macros. Select one from the menu, and away you go!

Rebound & SFScroll
It can be tedious to scroll through long lists of files when you're Opening. These two utilities will "remember" where you are in the file list and reposition you to the same spot next time you Open.

Big Box
If you have large screen attached to your Mac, you'll love Big Box. It lengthens the Open and Save boxes, letting you see more files at one time.

Earth
This INIT replaces your standard Apple menu with a rotating Earth icon. Cute!

On Cue Demo
Demonstration version of this fantastic MultiFinder program switcher and launcher.

FolderLock (demo)
This INIT can assign individual passwords to each folder on your disk. If someone tries to open that folder, they are asked for the password automatically before being allowed in. This demo version works only for one folder.



Facade
Are you tired of the standard icon used by your hard disk drive? Facade lets you assign any icon to your disks, and change the icon quickly and easily just by renaming the disk!

Somak Sets

LaserFonts Set $39

Our popular LaserFont disks plus a bonus disk of laser clip art!

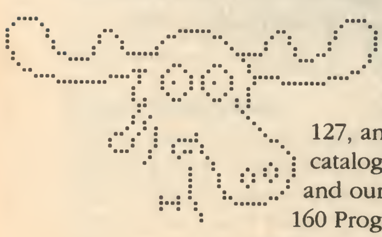
This five disk set includes all of the fonts shown on page 15 of this catalog, plus Laser Fonts 3 and 4, two additional disks of shareware fonts shown below. This set also includes Laser Clip Art 1, a great collection of encapsulate PostScript images in a variety of catgories.

El Garrett
Gordon
Futaru Bold Condensed
Miami Nights
Futaru Bold Italic
Park Haven
Jacksonville OldStyle
Richard Murray
New Garrett
Style
Classica Roman
Toulouse Latree
Classica Heavy
Hamburg
Classica Italic
Faustus

Desk Accessories Set $39

Power tools at your fingertips.

We've collected 69 of the most popular and useful "DAs" that can be used without quitting your current program! Appointment reminders, calculators, painting tools, Talking Moose, enhanced note pad and scrapbook are all included, and more!

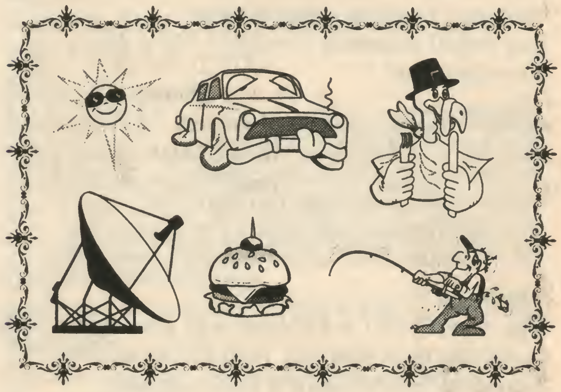


The Somak Desk Accessories Set includes disks 126, 127, and 128 from this catalog (see pages 28-30) and our bestselling disks 160 Programmer DAs and 205 Fun and Games DAs.

Laser Art Set $39

A complete library of images.

For maximum flexibility, there's nothing better than encapsulated PostScript clip art (EPS). Rotate, scale, stretch, and resize and it always looks perfect! This Somak Laser Art Set includes 5 disks of shareware art (156, 157, 158, 180, and 185) from our 2nd Edition Software Digest.



HyperCard Utilities Set $39

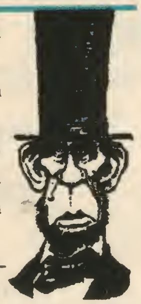
Unlock the power of HyperCard.



The essential collection for anyone who wants to create their own HyperCard stacks. The HyperCard Utilities set includes five disks with a total of over 100 shareware and freeware external commands (XCMDs) and external functions (XFCNs), plus helpful script examples, custom buttons, and much more! Included are disks 130 and 131 (see pages 25-26) and disks 166, 167, and 175 from our 2nd Edition Software Digest.

Standard Clip Art Set $39

Over 1000 high quality bitmapped images to enhance your desktop publishing. Requires HyperCard.

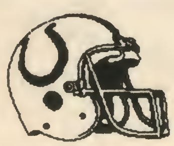


Use this outstanding five disk collection of artwork to add life to all of your publications. Most images are stored in HyperCard stacks and can be quickly located with keywords. Includes disks 113, 115 and 135 (see pages 11-12) and disks 163 and 165 from our 2nd Edition Software Digest. Bitmapped artwork works very well on both low- and high-resolution printers.





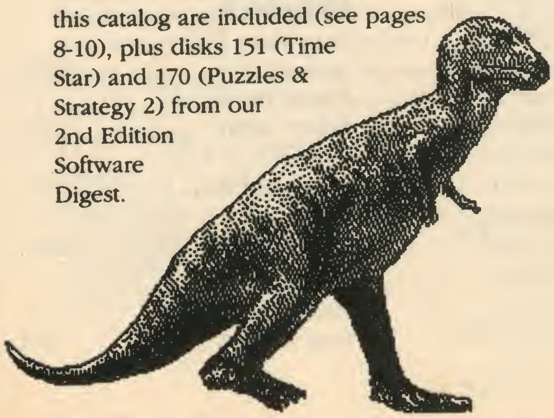




Games Set $39

Five times the fun.

Our game collection includes some of the finest shareware games ever created for the Macintosh. Home versions of video arcade classics, brain puzzlers, strategy games, and adventures are all included! Disks 108,109, and 110 from this catalog are included (see pages 8-10), plus disks 151 (Time Star) and 170 (Puzzles & Strategy 2) from our 2nd Edition Software Digest.



Standard Fonts Set $39

Five disks packed with high quality bitmapped typefaces.

A collection of over 80 fonts for your ImageWriter or other Macintosh-compatible printer. Includes disks 117, 118, and 119 from this catalog (see page 14) as well as disks 179 and 182 from our 2nd Edition Software Digest, shown below.

York from Disk 179
The creator of the popular Clairvaux font (disk 118) tops himself with this outstanding and stylish typeface. York is elegant and very legible and looks great on both screen and paper. York comes in 14 different point sizes, including triple-sizes for high-quality printing on the ImageWriter LQ. Also included is York Caps, a special purpose variation of the font, used to create large inital caps.

Boston II from Disk 179
The premier near-letter-quality font for the Macintosh, demanded by our readers. In addition to its high-quality output, Boston II also includes many common symbols, fractions, and a complete set of Greek letters in upper and lower case. Ten point sizes are included, from 7 to 24 point.

Display Fonts from Disk 182



S O M A K S T O R E

Take advantage of Somak's everyday lowprices on popular software in the Somak Store! The Store lists the most popular commercial software available, along with frequently-requested supplies and computer accessories. To order any of these items, fill in their product number(s) and price on the order form on page 36. If you don't see what you want listed here, give us a call. We can order just about anything!

BUSINESS

Informix
Wingz
Item # S1002 .... $275

Quicken – A fast and easy system for organizing personal or small business finances.
Item # S1001 .... $44

Microsoft
Microsoft Excel
Item # S1003 .... $269
Microsoft Works
Item # S1004 .... $203

COMMUNICATIONS

Freesoft
Red Ryder
Item # S1007 .... $60

Compuserve
Subscription Kit
Item # S1094 .... $30
Navigator
Item # S1095 .... $67

Synergy
Versaterm Pro
Item # S1103 .... $195

DATABASE

Fox Software
FoxBase + Mac
Item # S1012 .... $222
FoxBase + Runtime
Item # S1013 .... $169

Preferred Publishers
DAtabase Desk Acc.
Item # S1014 .... $90

DESKTOP PUBL.

Adobe
Illustrator '88
Item # S1015 .... $298
Font Library .... $CALL

Aldus
Freehand
Item # S1016 .... $339
PageMaker
Item # S1017 .... $421
Streamline
Item # S1099 .... $261

Broderbund
TypeStyler
Item # S1018 .... $CALL

The Mac Group
Splashes 1 Clip Art
Item # S1019 .... $39
Splashes 2 Top Gun Art
Item # S1020 .... $39

Quark
Xpress
Item # S1021 .... $CALL
QuarkStyle
Item # S1098 .... $230

GAMES

Bullseye Software
P51 Mustang
Item # S1022 .... $40

Casady & Greene
Crystal Quest w/Editor
Item # S1023 .... $42

MicroProse
Pirates!
Item # S1024 .... $45

Sierra On-Line
Police Quest
Item # S1026 .... $39

Silicon Beach
Dark Castle
Item # S1027 .... $32
Beyond Dark Castle
Item # S1028 .... $27
Apache Strike
Item # S1029 .... $32

Sphere, Inc.
Tetris
Item # S1030 .... $26
Falcon
Item # S1031 .... $39

Toyogo, Inc.
Go Master
Item # S1111 .... $79
Joseki Tutor
Item # S1112 .... $49

GRAPHICS

Deneba
Canvas
Item # S1033 .... $169

Electronic Arts
Studio/32
Item #S1100 .... $CALL
Studio/8
Item # S1034 .... $319

Studio/1 – Dazzling special effects and animation combined with blockbuster painting features.
Item # S1035 .... $106

Silicon Beach
SuperPaint 2.0
Item # S1036 .... $143
Digital Darkroom
Item # S1037 .... $277
Super3D
Item # S1038 .... $346
SuperCard
Item # S1039 .... $145

Zedcor
Deskpaint 2.0
Item # S1040 .... $77

HYPERCARD

Somak Software, Inc.
ScriptEdit
Item # P0001 .... $59

Broderbund
Whole Earth CD-ROM
Item # S1042 .... $103

ICOM Simulations
HyperTMON
Item # S1043 .... $89

Cosmic Osmo – An incredible animated adventure from the creators of The Manhole. Requires a hard disk drive
Item # S1101 .... $49

Mediagenic
Manhole
Item # S1044 .... $37
Manhole CD-ROM
Item # S1045 .... $42
Cosmic Osmo CD-ROM
Item # S1102 .... $CALL

TENpoint0
Focal Point II
Item # S1046 .... $132

Olduvai
Plus (HyperCard Workalike)
Item # S1110 .... $159

Silk City Software
PathFinder
Item # S1109 .... $59

Voyager
Inigo Stories
Item # S1047 .... $25
Your Faithful Camel
Item # S1048 .... $25

LANGUAGES

Symantec
Lightspeed Pascal
Item # S1049 .... $105
Lightspeed C
Item # S1050 .... $168

UTILITIES

CE Software
QuicKeys
Item # S1052 .... $72

Dataviz
Mac Link Plus/PC
Item # S1053 .... $117

Farallon
Screen Recorder
Item # S1054 .... $143

Fifth Generation
Pyro!
Item # S1055 .... $21
Suitcase II
Item # S1056 .... $53

ICOM Simulations
On Cue
Item # S1057 .... $41

Microseeds
INIT Picker
Item # S1060 .... $35
Screen Gems
Item # S1061 .... $49

WORD PROCESSING

Preferred Publishers
Vantage
Item # S1062 .... $69

Deneba
BigThesaurus
Item # S1063 .... $59

Microsoft
Word 4.0
Item # S1064 .... $269

T/Maker
WriteNow
Item # S1066 .... *$129*

ACCESSORIES

Farallon
MacRecorder 2.0
Item # S1068 .... $179

Kensington
Turbo Mouse ADB
Item # S1069 .... $129

NoRad
9" Anti-glare/radiation screen
Item # S1113 .... $129
13" Anti-glare/radiation screen
Item # S1114 .... $139

Somak
Bulk SS disks (10 w/labels)
Item # S1070 .... $13

Double sided disks (10 with labels) – you can't beat the value of Somak bulk disks.
Item # S1071 .... $13

ImageWriter Ribbon (black)
Item # S1072 .... $5
Ribbons (box of 6 black)
Item # S1073 .... $24
ImageWriter II Ribbon (4-color)
Item # S1074 .... $9
Logo T-shirt (specify size)
Item # S1075 .... $12
Logo Sweatshirt (specify size)
Item # S1076 .... $20
Somak MousePad
Item # S1077 .... $15
Smack-a-Mac – The best way to take out your MacFrustrations! Just use the Smack-a-Mac as a surrogate punching bag! See photo on inside cover.
Item # S1078 .... $15

Sony
DS disks (box of 10 w/labels)
Item #S1080 .... $20

123

CDEV Utilities 1 $8.99

Twelve great utilities that are totally configurable with the control panel desk accessory.

ApFont (shareware)
Choose the default font for your applications.

ApplicationMenu
Switch between programs in MultiFinder quickly and easily from a pop-up menu that's always available.

Fortune
A fortune, quote, or joke will greet you each time you start up your Mac! One of hundreds of different fortunes will be randomly selected and displayed each time you power up.

Front & Center (shareware)
This causes all dialog and alert boxes to be centered over wherever your mouse cursor is at the moment.

Møire
A fully configurable screen saver that draws beautiful animated patterns while you're not using your Mac.

Port~Master
This CDEV allows you to view and change the default settings of your serial ports.

SCSI Parker (shareware)
Automatically parks the heads of your hard disk drives when you shut down.

SCSI Tools (shareware)
This CDEV makes it easy to view the IDs of all SCSI devices and mount any off-line drives.

SuperClock
Dispplays the date and time in the upper right corner of your menu bar. An alarm is also included.

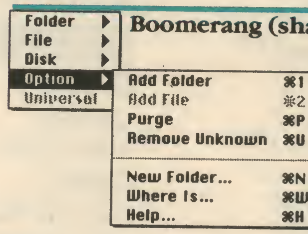
Who's Who
This displays 10 different pieces of info about your Mac configuration: System version, processor, QuickDraw type, keyboard type, AppleTalk driver version, and more.

Two CDEVs for the Mac II are also included: ScreenMaster (shareware), and ToggleCache.

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CDEV Utilities 2 $8.99

Seventeen new utilities to enhance your Mac, including a screen saver, handy text editor, and more!



Boomerang (shareware)
Boomerang adds a host of features to the Open and Save dialog boxes in all of your applications. Boomerang remembers the folders and files you use most often, and lets you quickly switch to them without navigating through long lists of folders. This is one of the most useful utilities ever written for the Mac.

DFaultD (shareware)
Wouldn't it be great if the Mac "knew" where you usually kept your files for a particular program? This handy utility lets you specify a default folder for each of your applications, so that when you use a program you can quickly access your documents without digging through the other folders.

Logout (HappiWare!)
Have you been accused of being a computer nerd, of spending too much time with your Mac? Logout will let you find out if it's true, by telling you how long you've been hacking away each time you shut down!

Shrinker (HappiWare!)
If you use a lot of CDEV utilities, the list of icons in your Control Panel can get pretty lengthy. Shrinker sets up the list to display the names only, so that you can get to any of your CDEVs without scrolling.

Nothing (HappiWare!)
This CDEV does nothing. At least that's what the instructions say! We'll let you find out what it really does on your own!

Cache Control (shareware)
Turn the instruction and data cache on and off on your '020 or '030 Mac for improved compatibility.

Please read the shareware info on page 2! Reward shareware authors for their efforts. We will all benefit from their work.



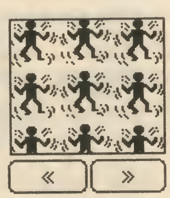
FlashWrite (shareware)
The FlashWrite utility is a quick-and-dirty text editor that is always available at the touch of a key! Any time you need to jot down a few notes or view some text information, just press a key combination and FlashWrite will appear. You can even use FlashWrite to edit text from the Clipboard! Ten individual “note pad” pages are available.

SCSI Probe
This CDEV displays valuable information about the hard disks and other devices attached to your SCSI port. Disks can be mounted, and SCSI ID numbers and driver version numbers are also displayed.

SCSI Saver (shareware)
This utility is like a screen saver for your hard disk! If you haven't accessed the disk for a certain length of time, SCSI Saver will automatically park the drive heads, reducing the risk of a crash if the drive is jarred, dropped, or unexpectedly switched off.

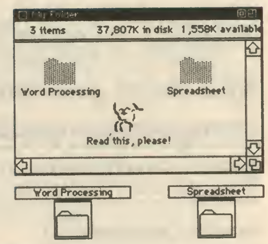
INIT CDEV (HappiWare!)
With all the great INIT and CDEV utilities available now, your System Folder can get pretty cluttered. Australia's John Rotenstein wrote this great utility that makes it easy to turn off individual INITs and CDEVs when you're not using them

Blackout (shareware)
An entertaining screen saver, similar to Pyro, that displays a field of moving stars. Blackout will not interrupt printing or other background tasks, and works on all Macs from the 512e on up, even those with multiple screens.



Edit Desktop (shareware)
A set of two CDEV utilities that let you have color background patterns on your Mac II that are larger than the standard 8 X 8 pattern. Includes a number of sample patterns.

QuickCard (shareware)
Press a key, and your Mac will dial your touch-tone long distance calling card number instantly!



WindChooser
Now you can choose between four alternate window styles on your Mac! One style lets you move the window by dragging from any edge, and another makes your Mac windows look like the ones on the new NeXT computer!

ClockAdjust
The built-in clock on some Macs loses or gains time over the weeks. ClockAdjust solves this by automaticaly adjusting the time every week.

Scroll Limit (shareware)
Sometimes precise movement of the scroll bars can be difficult on the new, faster Macs like the SE/30 and Mac II cx. This utility lets you adjust the rate and threshold delay that control your scroll bars.

Dawn (shareware)
This great utility lets you set up a number of color startup screens and startup sounds on your Mac II that switch automatically each time you start your Mac. Also includes Screener, a utility to improve software compatibility with some programs.

Virus Fighters and Vaccines $8.99

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Protect your valuable data from destructive computer viruses and “Trojan Horse” programs!

It was bound to happen sooner or later. In 1988 the first Macintosh computer virus was unleashed on the world. The “Peace Virus” turned out to be relatively harmless, but was followed by Scores, nVir, and a host of others with malevolent intentions. This disk contains the latest available versions of**Vaccine**, **Virus Detective** (shareware), Apple's **Virus Rx**, **Ferret**, **Guard Dog** (shareware) and **Interferon** (shareware), plus informational stacks and documents to help keep you virus-free.

Place your order today!

(800) 842-5020

This number is for orders only.
For other information call (619) 942-2556.

125 StuffIt Utilities $8.99

The most powerful data compression utility ever, plus some great companion utilities!

StuffIt (shareware)
The industry standard for data compression and transmission. With StuffIt you can reclaim up to 90% of that used disk space, and not lose a thing!

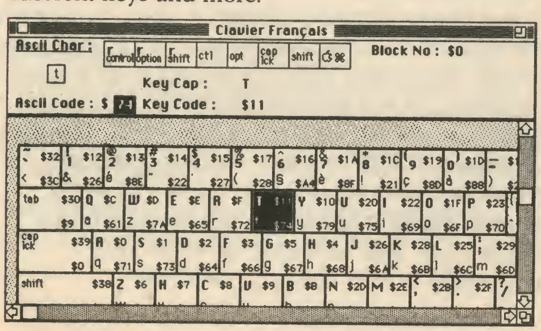
StuffIt Utilities (shareware)
A collection of companion utilities and desk accessories, including UnStuffIt, the AutoUnStuffIt Shell Application, and the SFVol INIT (see page 16).

StuffIt Cataloger (shareware)
A HyperCard stack to catalog your StuffIt archives. This stack will "look" into any StuffIt archive and create a directory of the contents.

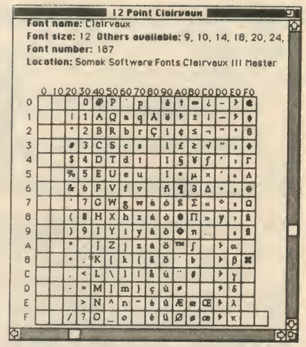
211 Font & Keyboard Utils $8.99

These useful utilities let you rearrange your keyboard, print font style sheets, and much more!

KeyEd (shareware)
A complete keyboard editor that lets you completely rearrange the keyboard layout! New layouts can be saved and reloaded, and even installed automatically when you start your Mac. Use the high-speed Dvorak layout, switch to special foreign language arrangements, assign frequently used symbols to different keys and more!



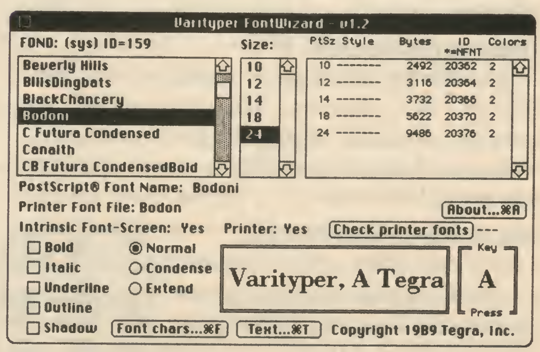
FontDisplay Ltd. (shareware)
If you've ever wanted to see a sample of every character in a font, you need FontDisplay! It can display tables showing the character assigned to each key, and large "key caps" charts showing the arrangement of those characters. This limited version does not print or save your settings changes.



N-Font
This program from Olduvai Corporation makes it easy to convert older font files into the new N-Font numbering system to prevent font ID number conflicts and other problems.

Styler (shareware)
This program is a quick, easy way to print out a "style sheet" of any of your fonts.

Varityper DAs
Four excellent desk accessories from the Varityper corporation to help you manage your fonts. Print samples of all fonts, display font ID and family reference numbers, avoid font conflicts at the service bureau, and much more!



Font Names & Numbers
An information file filled with great tips and techniques for avoiding font conflicts and renumbering your fonts to the new N-Font system.

Purchase more disks for extra value.
6 - 15 disks are only $8.49 each.
16-25 disks are only $7.99 each.
26 or more are only $7.49 each.

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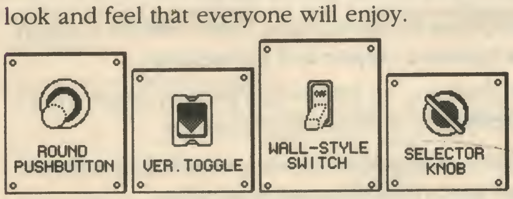
Utility Stacks 1 $8.99

Do you use HyperCard to create your own stacks? You'll love this great collection of XCMDs, XFCNs, and helpful script examples!

About XCMD – Now your stacks can have a custom "About this stack..." menu.
Most Macintosh programs include a credit line under the Apple menu. Now your HyperCard stacks can too! This XCMDadds one or two lines under the menu that you can link into any card or script.

FileName – Access the standard file dialog routines from your HyperTalk scripts.
Nobody likes to type in pathnames like "HardDisk:HyperCard:My Stacks:Test1" when they can just point and click! Well, this external function lets your stacks use the standard file dialog boxes for opening and saving files.

Clicky Buttons – Seventeen whimsical animated buttons to add life to your stacks.
The wizards at the Acme Dot Co. have come up with a collection of buttons that move when you click them, in a variety of visually interesting ways. Use them in your stacks, and you'll achieve a unique look and feel that everyone will enjoy.



PopAlert (shareware) – Access the standard alert dialog boxes with their icons.

ResCopy – If you use XCMDs, XFCNs, or any other resources, you need ResCopy!
This external command, which is copyrighted by Apple, is one of the most useful HyperCard utilities ever created. It facilitates the movement of resources to and from any stack, with commands to copy, rename, renumber, and remove resources. It can also play sounds and display icons and cursors.

DragRect – Create "draggable" windows with this external function.

ZoomRect – This XCMD animates a zooming rectangle to provide visual cues.

ZipCheck – An XFCN to check the validity of 5- and 9-digit zip codes.
Enter a zip code, and ZipCheck will return the two-letter state abbreviation if it's valid.

Menu XCMDs – Add standard pull-down and pop-up menus to your stacks!
We've collected five of the best HyperCard menu bar utilities available, and put them together on one disk. Now you can create standard pull-down menus, pop-up menus, hierarchical pop-ups and pull-downs, and even a pop-up menu bar (this function is a shareware item). With all these routines, you'll never need another one!

Windoid – Six newsletter stacks packed with helpful info, scripts, and ideas.
These stacks, transcripts of the first six newsletters from Apple's HyperCard User Group, include some of the best utilities available for streamlining your stacks and making them more functional and efficient. Find out how to group and move buttons and fields, create "sticky buttons," import text files, and much more!

StackEditor Demo – Edit scripts from different objects or stacks simultaneously!
HyperCard's standard script editing environment is somewhat restrictive, since you can't easily edit scripts from a number of different objects. Cutting and pasting between scripts can be a real chore, too. With the StackEditor, your scripts from stacks, fields, buttons, cards, and backgrounds are all accessible with a scrolling field.

Make sure to ask about ScriptEdit, the hot new HyperCard utility published by Somak Software! ScriptEdit is a desk accessory that lets you edit multiple scripts, do global searching and replacing, and much more! See the back cover of this catalog for more information.

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Utility Stacks 2 $8.99

This disk is filled with 33 external commands, functions, and scripts to enhance your stacks.

BarButton – An innovative and flexible control button similar to a scroll bar.
Sometimes you need a variable control, but a scroll bar just isn't right. When you drag the mouse across a BarButton, a black area in the button will move with the mouse to indicate a selection. BarButtons can be placed horizontally or vertically.

ChangeCursor – This XCMD will change the cursor independent of any handler.
HyperTalk's commands to change the cursor work only within one handler. This XCMD lets you change the cursor on the fly, and it will stay that way until you change it again.

Clipboard – This pair of XCMDs will send and receive text to and from the clipboard.

Crunch – An XFCN that removes extra spaces between the lines of a text field.

DispPict – Display paint pictures, PICT images, or color images with HyperCard.
This external command will open a graphic image, either from a separate file, or from a PICT resource stored within your stack, and display it over the top of the current card. On a Mac II, the image can be displayed in color.

FormatNumber – This will format numbers by adding commas and decimal point.

FormatPhoneNumber – Converts 7 or 10 digit numbers to phone number format.
This will automatically convert a "raw" number like 6199422556 to (619) 942-2556.

Highlight – Automatically highlight any button as the mouse passes over it!
This stack was designed to help computer neophytes grasp the concept that buttons are meant to be clicked on to initiate actions. Buttons can automatically and selectively be highlighted when the mouse cursor is pointing to them.

Mac II Stacks – Three stacks to control color and 68020 data cache on the Mac II.

HyperTools – A collection of eight different external commands and functions.
This stack includes 8 functions: **StripIt** returns the width of a string in pixels. **ZoomRect** will create a zooming rectangle from one point to another. **DragRect** simulates a moving window outline as you drag a field. **CopyBits** will copy any bit image from one point to another, scaling it if necessary. **RGB Backcolor** and **RGBForecolor** will set the background and drawing colors on a Mac II. **GetPicture** can retrieve and draw PICT images, and **ListCatalog** will read the contents of a disk or folder into a field, showing each file name, it's size, and it's type and creator information.

PaintView (shareware) – Preview MacPaint pictures before importing them.

Power Tools – Toggle instantly between tools, without wasting time with the menu!
Normally to select a new tool, you have to move the mouse up to the tools menu, select your tool, and go back to your work. After installing PowerTools, you can hit the Enter key, and you'll toggle between the browse, button and field tools. Hit Shift-Enter, and you can quickly move through the other painting tools! It'll save you a lot of time!

StringCase (shareware) – These XFCNs convert text between upper and lower case.

StripDelim – An XFCN that pre-processes text by stripping unwanted characters.

StripIt – A function to strip selected characters from text. Includes pascal source.

ThumbButton (shareware) – Create control bars with indicators inside the "thumb."
Similar to a scroll bar, the ThumbButton can be placed horizontally or vertically. The white control box, or thumb, can contain a number indicating the selected value.

UserLevel5 – Force your user level to stay at 5, even if pesky stacks try to change it.

XPict – Draw PICT images at any size, anywhere on the screen, in 8 different modes!

Also included: TitleBar, NewFolder, ShutDown, Flasher, and Effects stacks.

Somak Software, Inc.
535 Encinitas Blvd., #113, Encinitas, CA 92024
(619) 942-2556 FAX (619) 632-9087

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Utility Stacks 6 $8.99

This disk contains the latest advances in HyperCard techology.

WindowTalk™ (shareware)
Who says HyperCard doesn't do windows? Veteran HyperCard programmers Guy de Picciotto and Jerry Daniels spent over a year putting together this collection of 26 XCMDs and XFCNs that let you create modeless windows in HyperCard. Your windows can contain scrolling text fields, buttons, icons, lists, and other standard items, and float over the top of the stack. Includes a 74 page instruction manual that can be read on screen or printed.



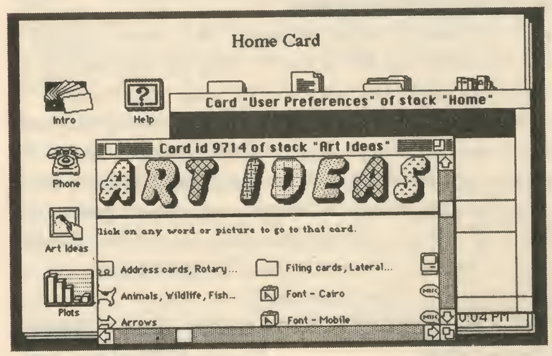
Laser XCMDs (shareware)
Two external commands that work with any PostScript printer. QueryFonts puts a list of all resident and downloaded fonts into a global variable, and PrinterStatus returns the current idle or busy status of the printer.

askXCMD (shareware)
This XCMD replaces the standard Ask function with an improved dialog box that supports command-key equivalents and is easier to 'script' than the standard command.

HyperArrays (shareware)
Accellerate your HyperTalk scripts with this system of XFCNs that create and manipulate multi-dimensional data arrays. These arrays can store anything that would normally be kept in a HyperTalk container, but can access and move that data more than twice as quickly as HyperCard.

WhoMade
Now you can launch documents from HyperCard as easily as applications. This XFCN returns the name of the application that created any document.

SnapShot
This XFCN lets you display more than one card at a time on screen. SnapShot "takes a picture" of the current card and places it in a window that lays over the top of the stack. All of the open SnapShots can be easily hidden and redisplayed, and can be quickly saved as MacPaint files for inclusion in your other documents.



Misc. Externals
This stack contains four assorted XCMDs and XFCNs: DoubleClick makes it easy to distinguish between a single- and double-click. GetIT and PutIT let you preserve the contents of the IT variable, even when HyperCard isn't in use, and TheComputer XFCN will tell you what type of Macintosh your stack is being used on.

SendNullSerial
The popular serial-driver XCMDs can't send null characters. This simple XCMD will send a null out either the modem or printer port.

XCMD Generator (shareware)
If you're learning to write your own XCMDs and XFCNs, you'll appreciate this stack that generates "skeleton" source code for Turbo Pascal, MPW Pascal and Lightspeed C.

Place your order today!

(800) 842-5020

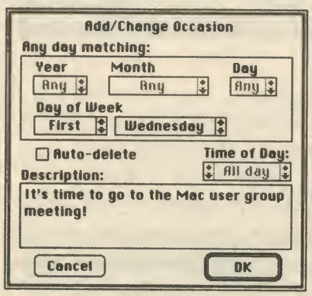
This number is for orders only.
For other information call (619) 942-2556.

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Desk Accessories 1 $8.99

Desk accessories are installed and listed beneath your Apple menu. Use them any time!

Remember (shareware)
The ultimate personal secretary who never forgets! Do you have trouble remembering appointments, birthdays, and other occasions? You won't any more, if you have Remember! Enter descriptions of important occasions, and this combination desk accessory/INIT utility will automatically remind you of impending events when you turn on or reset your Mac! Occasions can be one-time events, like dentist appointments, or periodic, like birthdays and anniversaries. You'll love it!





Calculators
Eight calculators for scientific, financial, and other specialty uses. Included are the dCad Scientific (shareware), the RPN-C calculator, a Feet/ Inches/ Fractions computer (shareware), an abacus, a Roman numeral calculator, and 3 more!

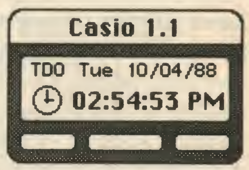
Convert (shareware)
The ultimate Metric-to-English and back again convertor! Not only will Convert move numbers from the English system to Metric, but it also does unit conversions in linear, square or cubic measurements, supports all standard multiples and submultiples (deca-, milli-, etc.), and is even a four-function calculator!

Unit Conversions (shareware)
Unit conversions for area, acceleration, mass, etc.

Note Pad II (shareware)
A great note-pad replacement with pop-up topic index. When you need to jot something down, do you still reach for a scrap of paper? Well, you won't if you have Note Pad II installed on your Mac! It provides a multi-page scratch pad, and has an innovative pop-up menu that keeps your notes categorized.

New Scrapbook (shareware)
Store your pictures and text with greater flexibility. This text and graphics scrapbook functions much like the original one, except that specific portions of any text or graphic pasted into it can be copied separately. Large pictures can be reduced to fit inside the scrapbook window without distorting the image, and long text entries can be scrolled to view areas that are outside of the main window.

Clocks
The time can be fun with these wild, wacky and useful replacement clocks! You'll receive eight new clock accessories to replace the old alarm clock.



Choose from Casio (shareware), which features nine programmable time zones, ten countdown timers, ten elapsed timers, and ten nameable alarms, a reproduction of London's Big Ben, the infamous "Two Sheds" Jackson clock, and five more!

Sunrise...Sunset
Displays the sunrise and sunset times for any location. Enter your latitude and longitude, and this DA will display an accurate sunrise and sunset time for either standard time or daylight savings time.



SunClock (demo)
A fascinating display of the relationship between Earth and Sun. SunClock draws an accurate world map showing the areas of light and darkness.

Please read the shareware info on page 2! Reward shareware authors for their efforts. We will all benefit from their work.

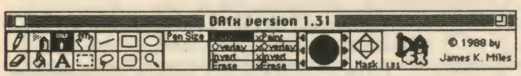
127

Graphics DAs $8.99

A collection of outstanding accessories for drawing, painting, and other graphic work.

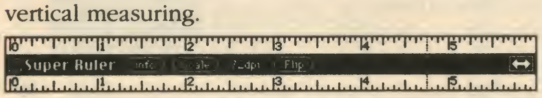
Scribbler 3.0 (shareware) – A full-featured object oriented drawing program in a DA!
If you need to scratch out a quick illustration, or touch up a picture before pasting it into another program, you'll find Scribbler handy indeed!

DAfx 1.31 (Keyware) – A powerful painting program that you can use any time!
This is one of the most full-featured paint programs around, with almost all of the tools that MacPaint has, and some of the special features of newer programs like FullPaint and SuperPaint! To top it all off, because it's a desk accessory, you can use it any time you want, without quitting your current program. Some of the features of DAfx are disabled until you register with the program's author. You will then receive a software "key" that will unlock your copy of DAfx and make it fully functional.



Artisto Plus (shareware) – Open, view, and copy any MacPaint or PICT image.
You'll like the quick and easy operation when you use Artisto Plus to open paint or PICT images, preview them, and paste all or part of those images into another document.

SuperRuler 1.1 (shareware) – Measure on-screen images for precision alignment.
You probably wish all programs had rulers the way MacWrite and PageMaker do. Well, now they can! The SuperRuler can be flipped for horizontal or vertical measuring.



AppleDraw (shareware) – A mini MacDraw, accessible within your other programs!

Show DA (demo) – This DA will open MacPaint images and create a slide show!
The Show accessory will open MacPaint pictures, and flip through them automatically in a "slide show." This demo is missing some features, such as time delay, but is useful on its own. Information is included for ordering the complete version from the author.

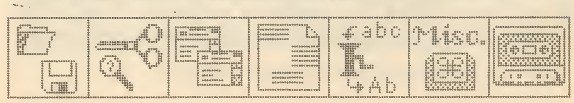
Bezier – This painting accessory is a specialist in smooth Bezier curves!
With multiple ink modes and a special Bezier tool, you can produce professional curves in no time at all! Use Bezier in conjunction with another program or the scrapbook, and you can copy and paste the curve directly into another document.

Text Editing DAs $8.99

128

Sometimes you don't need all the features of a word processor. Use one of these great editors!

McSink 6.2a (shareware)–Everything but the sink is in this amazing text tweaker!
It started as a humble utility with character stripping and word counting capabilities. Now, it's one of the most feature-packed programs in existence! It also serves as a demonstration of it's commercially-available big brother, Vantage™. McSink can edit the contents of your clipboard, add and remove prefix and suffix strings to every line of text, sort text three different ways, change spaces to tabs and back again, strip control characters such as linefeeds from your text, edit multiple documents, add or remove line numbers, and much, much more! You'll find yourself using it every day!



MiniWriter (shareware)–This text editor is optimized for the ImageWriter owner.
If you need to quickly edit a text-only document, and print it out on your ImageWriter, you'll like MiniWriter. It comes with a special font that mimics the draft printing characters of your ImageWriter, for 100% WYSIWYG operation. And if you own a LaserWriter, you can use MiniWriter to send Postscript commands to your printer!

SigmaEdit–This text-only editor works with documents larger than 32K!

MyWord (shareware)–Is it a text editor or a word processor? Well, a little of both...
Most text editing accessories allow you to select a font for the entire document to be displayed in. MyWord lets you specify individual fonts, styles, and sizes for every character! And, it uses familiar on-screen rulers for margin settings.

WordCounters–Three accessories to count the number of words in your text files.

Afterthought (demo)–A disk-based editor designed for the power programmer!
This desk accessory editor is modeled after MDS Edit, the standard in text editing since the early days of the Mac. Since it is disk based, it can edit documents as long as 8,000,000 characters, and can open two files simultaneously. This demo version can't save or print your files, but includes ordering information for the complete package.

PowerEdit (shareware)–Another editor designed for the C or Pascal programmer.
PowerEdit includes features that programmers will love, like block shifts, search and replace, auto indentation, automatic save, and even bracket matching!

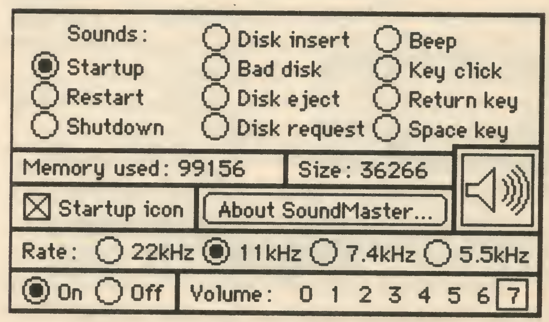
JoliWrite (shareware)–Beautify your files before transmitting them with a modem.
Some communications services need files to include a carriage return at the end of each line, and need spaces instead of tab characters within the text. JoliWrite does most of this formatting for you before you upload your text to another system.

SoundMaster 1 $8.99

129

With these incredible digital sound effects, your Mac will take on a whole new personality!

SoundMaster (shareware) is a small utility that you place inside your System Folder. It will play sound effects during specific Mac operations, such as inserting a disk or shutting down. Think of your co-workers amazement when your Mac greets you in a human voice and asks what you would like to work on! Or, create a high-tech environment with our robotic effects that make your Macintosh sound like a deadly killer android! We've included five different sound "environments" for you to choose from.



SoundMaster 2 $8.99

204

Another collection of hilarious sound effects for your Mac!

Our second collection of sounds for the SoundMaster utility includes five new sound environments: Star Trek (you'll think you're on board the Enterprise), Cartoon Sounds (hilarious sound effects from your favorite animated cartoons), Male Voice (are you ready for a macho Mac?), Star Wars (great action sounds from the sci-fi trilogy) and Classical Music, for those relaxing moments at the end of the day. Of course, the SoundMaster utility is also included.

Purchase more disks for extra value.
6–15 disks are only $8.49 each.
16-25 disks are only $7.99 each.
26 or more are only $7.49 each

212

Sound Utilities $8.99

Use these programs to convert between the popular sound file formats. Requires HyperCard.

Sound Leech (shareware)
Converts SND resources to sound data files, such as those used by the MacRecorder and SoundMaster utility software.

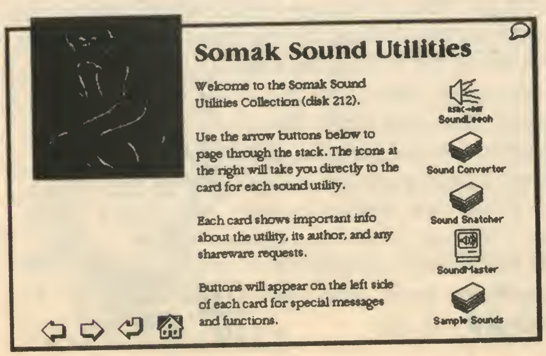
Sound Converter
This utility converts sound data files back to SND resources, for use in HyperCard and other programs that use the sound resource format.

Sound Snatcher
A third type of sound file, the ASND resource, is used by some games such as Dark Castle, Crystal Quest, and games created with World Builder. This utility will convert these ASND resources to standard sound resources.

SoundMaster (shareware)
This popular utility plays up to eleven different sound effects at specific times like startup, disk eject, and shutdown. See the description of disk 129 on page 30 for more information.

Sample Sounds (postcardware)
A collection of sample sound effects in a HyperCard stack, recorded by sound wizard David Rakowski.

Somak Sound Utilities Stack
We've put together this stack to make it easy for you to switch between the various utilities on this disk.



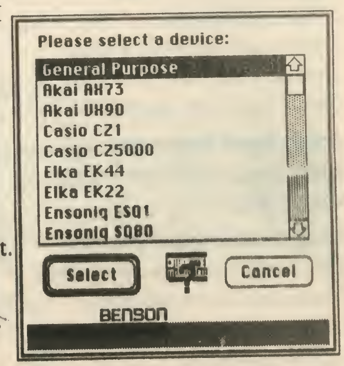
139

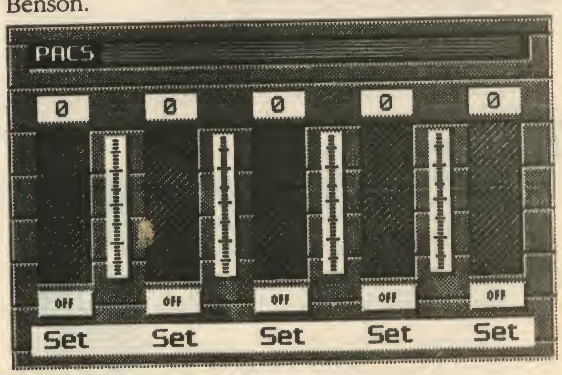
MIDI Stacks for Music $8.99

Two great HyperCard utility programs for the electronic musician. Requires MIDI interface.

HyperMIDI Toolkit (shareware)
Customize & program your MIDI studio in HyperTalk! This stack contains a collection of sophisticated external commands, functions, and routines that give you almost unlimited control over any MIDI device in your studio. Includes a data analyzer, MIDI filter, step sequencer, Roland D-50 librarian, Yamaha DX-7 envelope creator, and more!

Benson
Retrieve and send MIDI bulk dump data to and from your instruments. With Benson, you can read in any data from your MIDI devices, examine it, manipulate it, and send it back to your MIDI network. For example, you could use Benson as a patch librarian for any MIDI instrument. Includes a 38 page instruction manual and two versions of Benson.





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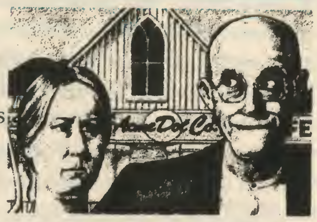
This number is for orders only.
For other information call (619) 942-2556.

134

Animation Stacks $8.99

Explore the power of animated graphics with HyperCard!

American Gothic



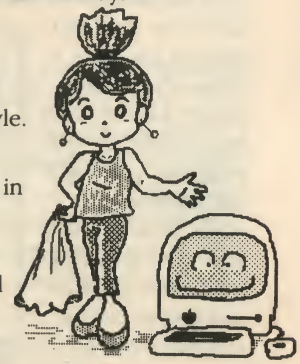
A hilarious take-off on Grant Wood's famous painting!You've always wanted to know what the old couple was saying to each other, and now you can find out! Includes sound effects from a classic sci-fi film.

Rocky's Dream

Rocket J. Squirrel was never like this when you were a kid! Beware… this one's a little bawdy!

A Funny Day

A cute cartoon with a trick ending, with artwork in the classic Japanese animation style.



Anim Stack (shareware)

Easily create animated effects in your stacks.

Drag Tracer (shareware)

This stack helps create special effects by following your mouse movements and repeating them.



HyperZoetropes

Six examples of historic animation from the late 19th century, converted from penny arcade machines to the Macintosh!

HyperMutoscopes

Here are two longer old-time animations, including a flick starring Chaplin!



Synchronicity $8.99

210

Isn't it time your Mac relaxed you instead of stressed you out?

Synchronicity is a relaxation and decision-making tool that can help you approach decisions from new angles and with better clarity. As you "sit" by an animated on-screen stream, listening to recorded waterfalls and frog sounds, focus your mind on a problem or decision you're facing. Then, when your mind is clear, Synchronicity does its thing. Whether you agree with its basic principals or not, we think you'll find it entertaining. And the graphics are great!

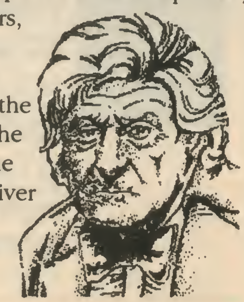


Dr. Who Fan Disk $8.99

209

You know who you are.

This disk will delight fans of the cult favorite TV series Dr. Who. It features the Dr. Who Stack, containing cast listings, descriptions of each episode, pictures of the various Doctors, theme music, Dalek and K9 sound effects and more! Also included are two versions of the classic Daleks game, one of the first games ever written for the Mac. Use your Sonic Screwdriver and Teleporter to outwit the bloodthirsty Dalek robots for as long as you can!



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535 Encinitas Blvd., #113, Encinitas, CA 92024
(619) 942-2556 FAX (619) 632-9087

140

Network Software $8.99

A collection of great utilities and communications programs for AppleTalk/LocalTalk networks.

ATView (shareware)
This desk accessory displays info about each node on the net. Displays the node ID, user name, node type, and socket number for each node.

Broadcast
Send messages to and from any users on the network, with the Chooser! Just select the network user who should receive your message (or select all users), type the message, and it will appear on the screens regardless of what they're doing at the time!

ClockSynch
Remember when they used to say "synchronize your watches?" It's annoying when the Macs on a network have their clocks set to a slightly different time. ClockSynch fixes that by synchronizing the clocks on all connected Macs!

Dopplemaker (shareware)
Protect files on your server from unauthorized copying. You want your network users to be able to access the applications they need, but you don't want them to copy those programs for personal use. Dopplemaker creates "phantom" programs that work just like the originals, but are useless if copied.

FolderShare (shareware)
Assign folder access privileges with AppleShare more flexibly than with the built-in system.

Apple-Jam (shareware)
A teleconferencing program for up to twenty users.

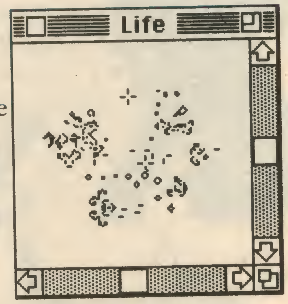
JamPaint (shareware)
Share sketches and drawings over the network in real time! Open JamPaint on two or more networked machines, and when a user draws on one Mac, their drawing appears on the other Macs simultaneously.

SetNode
A control panel device (CDEV) to set the network node hints in your parameter RAM.

220

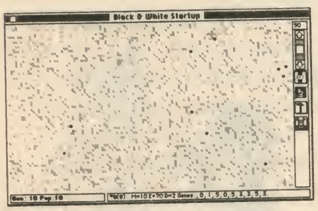
Simulations $8.99

Experiment with these fascinating computer simulations!



Life
John Conway's famous "Life" system simulates the interaction of cells that live, die and multiply based on simple rules and create fascnating patterns in the process. We've included two great versions of Life here. **LifeHack** supports multiple views of the Life universe, fixed and live cells, and much more. Also included is**Bill's Life**, the first version of Life for the Macintosh, written by Bill Atkinson in 1984.

The God Game (shareware)
Have you ever wanted to be a god? Here's your chance! Up to four players can "play god," raising land up from the ocean, creating new races and populating the planet. Bring plagues and pestilence upon the creations of competing gods, and see who can dominate the universe first!



Bugglings (shareware)
Simulate life in a test tube! The bugglings swim around, feeding on food particles, and are controlled by 9 genes that determine their behavioe. They can even "learn" over several generations, avoiding dangerous areas and sticking close to food sources!

Wator
This classic simulates populations of sharks and fish as they feed and multiply in an imaginary ocean.

Also included: Chaos, Truchet Tiles, Cellular Automata (requi es color), HodgePodge, and Microbe Swarm.



SOFTWARE AUTHORS!

Somak Software is interested in reviewing your work for inclusion in future editions of the Somak Software Digest.

If you are thinking about distributing your software as shareware, or are interested in commercial marketing, you owe it to yourself to see what we have to offer!

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For more information, please call (619) 942-2556.

Please read the shareware info on page 2!
Reward shareware authors for their efforts.
We will all benefit from their work.

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PLACING YOUR ORDER

The easiest way to place your order is by telephone. Call us toll free at (800) 842-5020, and have your disk numbers and credit card information ready for our operators. If you prefer, you can also fax your order to us at (619) 632-9087. Or, place your orders by mail. Tear out or photocopy the order form on the next page, and mail it to:

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California customers please add the correct sales tax for your county.

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Please allow one to two weeks for delivery. Orders within the continental United States and Canada pay $4.00 postage and handling. Foreign orders please add 15% of the total order amount to the standard $4.00 charge. Federal Express service is available on most orders placed by telephone. Please call for delivery schedules and pricing.

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Somak Software warrants that programs will perform as described and are compatible with specified Macintosh configurations. If a disk does not perform as described, we will exchange that disk for another one of your choice. Defective disks, disks damaged in shipping and disks duplicated incorrectly will be replaced with the same title. No refunds will be issued for software products.

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Script Edit™

ScriptEdit is a fast, intuitive desk accessory text editor designed to enhance the HyperCard scripting environment.

FEATURES

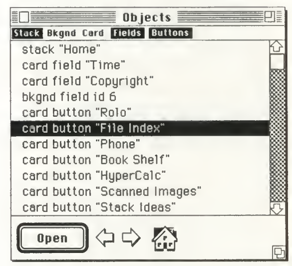
BENEFITS

Multiple script windows on screen simultaneously, limited only by available memory.

One script can be used as a reference when creating another. Scripts can be cut and pasted between objects more easily.

Objects window containing an index to all stack objects. Updated instantly when changing cards.

Objects can be quickly located and opened for editing. Hidden buttons and fields need not be displayed to edit them.



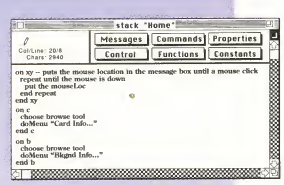
Unique filters control the list of HyperCard objects.

Full-featured Find and Replace functions.

Variable names and other script text can be quickly changed throughout a script, across a series of objects and cards, or even within a number of scripts from different stacks.

Many HyperCard functions remain available while ScriptEdit is open.

There is no need to constantly open and close the script editor while you move through your stack. All navigation commands, including Recent, are available without closing ScriptEdit. New objects can be created and immediately renamed and edited.



ScriptEdit's special Info Bar includes pop-up menus listing all HyperTalk keywords.

Font, size and window preferences are saved individually for each script.

During a project, commonly edited scripts can be arranged on screen and displayed in appropriate fonts and point sizes. These settings, including window position and size, stay in effect until changed.

XCMD provides a HyperTalk-to-ScriptEdit interface mechanism.

ScriptEdit can be opened with HyperTalk™ commands for automatic object editing. This allows detailed customization of the ScriptEdit environment. A special stack is included with examples and script ideas.

ScriptEdit opens any standard text file.

Even when you're not using HyperCard, ScriptEdit can edit and print text files from other applications. When you are using ScriptEdit with HyperCard, scripts and other text can be edited side by side.

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ScriptEdit™



A POWERFUL DESK ACCESSORY FOR HYPERCARD®

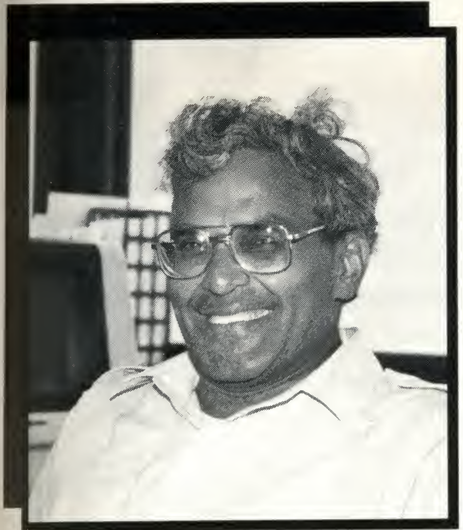
ScriptEdit is a fast, intuitive desk accessory that makes it easy to create, modify and print HyperTalk™ scripts — the instructions that control your HyperCard stacks. ScriptEdit increases your productivity by enhancing the script editing environment. You'll work faster, and have more control over your scripts than ever before. The ScriptEdit system includes the desk accessory, an installation stack with XCMD, and a collection of samples and ideas that help you put ScriptEdit to work immediately.

See inside back cover for more details.

INTRODUCTORY PRICE
$59
(Sugg. retail, $79)

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that will run very fast.

It is possible to design theoretical things somewhat independent of the architecture. But then they *may* perform better than a sequential processor, or they *may not* when they are actually used on a machine. So, my background in electrical engineering, computer architecture and actually building computers has been useful to me in giving me ideas of what is inside and how to optimize its use.

FCN: You are also doing research in discrete structures and optimization algorithms. Much of the mathematics used in computer science is of recent origin, or like Boolean algebra, it was a mathematical curiosity with no real application until computers came along. In parallel processing, are you having to develop new math to handle the requirements of programming parallel processors?

DEO: Yes, well most of applied mathematics are continuum based, like Calculus. When computers came on the scene, we found that classical mathematics, the mathematics prior to the 19th century Industrial Revolution, in use since by engineers and physicists, was of very little use in computer science. Classical mathematics was the mathematics of continuum. You are dealing with a continuous curve with no breaks in this type of math. In computer science, things are discrete. You don't deal with continuous things. You have one number and then the next number. There is no way to represent anything in between those two numbers. If you have a zero in the last bit, then the next representation would be a one. There is nothing in between, there is a gap between the two numbers. In Calculus the numbers vary in a continuous fashion, there is always an in-between number. Therefore continuum based mathematics would not work.

So things vary discretely, that is one difference. The other is that it is very complex. The recent high density chips have an average of 1.2 million transistors on each chip. Now with that many transistors on a chip you have to keep track of them.

In classical mathematics with that many elements you use *statistical* mechanics. Like molecules, in chemistry, you are interested in the statistical behavior. You don't worry about what happens to each individual molecule. You model it, but you don't keep track of it. In computer science, you must keep track of *individual* transistors, *individual* circuits, *individual* elements. Your statistical behavior won't do you any good. So now there is no well-developed branch of mathematics that can handle that many elements that interact and are coupled together. We found that we quickly ran out of mathematical tools and so we have to develop mathematics as we go along. That is where discrete mathematics comes. In discrete mathematics you sum rather than integrate, you classify, you enumerate. Graph theory is becoming a very powerful tool in computer science.

FCN: Earlier you said that in five or ten years even personal computers will have parallel processors.

DEO: That's right. So for the software industry which is developing quite rapidly in Florida, this is a critical time for them to get in the parallel processing mode. The machines of the future are going to be parallel and programming parallel machines is very much different than programming for sequential machines.

FCN: When parallel processing really hits the open market, it is going to cause quite an upheaval in the computer industry, isn't it?

DEO: Yes, it is a revolution within a revolution. The computer industry itself is a revolution. It is the second revolution, the industrial revolution was the

"For the software industry which is developing quite rapidly in Florida, this is a critical time... The machines of the future are going to be parallel..."

first; now we have another revolution within the revolution. A lot of things that are not possible with sequential processing are becoming possible with parallel processing.

FCN: Many South American companies are interested in parallel processing, since supercomputers are so cost prohibitive. Would you like to address that?

DEO: Yes, parallel processors would be the way for them to go. Instead of spending the $25 million or so for a supercomputer, they could spend between $100,000 and $200,000 for parallel computer, then train the manpower, learn to use that machine and they will be getting the power of that supercomputer.

"Parallel processors would be the way for [many South American companies] to go. Instead of spending the $25 million or so for a supercomputer, they could spend... $200,000 for a parallel computer, then train the manpower, learn to use that machine and get the power of that supercomputer."

FCN: Do you foresee the development of a program that could take a sequential program and give you an algorithm for rewriting it for a parallel processor?

DEO: That would be very nice to have, but I don't foresee it in the near future. You see there has been a dream of computer scientists for a long time to write one master program that will generate software for you. You would say write me a nice program to do thus and so. Then the master program would write and you would just sit back.

FCN: That would be going a bit far, but what about a master for a particular set of problems?

DEO: Well there are some out there. But the speed would only be maybe two or three times that of a sequential processor, when it could be a thousand times greater. For a particular subset of problems, think about it. It requires a very deep understanding of the problem, the architecture and other variables. Something like that is still quite a ways off.

First there needs to be years and years of experience writing parallel software. Then we can make comparisons between them and find out what makes a good parallel program. For now we need to learn to program parallel processors. For a software business, that is the wave of the future. They need to start learning how to do this so they are not left behind five years from now.

FCN: Where do they learn that?

DEO: They come to UCF.

FCN: The parallel processing center will be big boost for UCF then?

DEO: Yes, it will very nice. It will be good for UCF and for the software industry and the community at large. We have made a start. We teach students parallel processing now, using simulators and transputers. By the end of this year we should have our own parallel processor. We recently hired a new faculty member who will be working with me and my five doctoral students. The university gave us a modest sum to start with.

FCN: What are your long term goals for the parallel processing center?

DEO: Well, we wish to establish a library of procedures, of software, for parallel processing which can be drawn on. Also, we will provide a place for the computer industry to send their programmers to learn parallel processing. It is an ongoing process. You can't just go for a three month short course somewhere and come back a parallel programmer. So, it will much more cost efficient for companies based in and around Florida to send their people here for training, as opposed to California, for instance. If you send them to California, they may not come back. Also, we are making a beginning at establishing a reference library of technical manuals and papers on parallel processing. This would be extremely expensive for each company to have their own extensive library of these materials, but we will have them here for their use. And of course, we will be continuing our research to improve the quality of parallel processing, to improve the efficiency of using

"...it will be more cost efficient for companies to send their people here for training... If you send them to California, they may not come back!"

modo tal que cada procesador tenga casi la misma tarea, en cuanto a tiempo, de modo que cuando sea tiempo para que éstas se comuniquen entre sí, todos estén listos para la siguiente tarea al mismo tiempo.

FCN: En su investigación de computación en paralelo, ¿trabaja usted también en el equipo de computación?

DEO: No tan estrechamente como lo hacía. Trabajo más en los programas, pero me es necesario tener conciencia de los progresos que se llevan a cabo con el equipo, de la arquitectura interna. Se debe saber como explotar y sacar ventaja de ello. En el proceso secuencial se puede tratar una computadora más como una cajita negra.

En el procesamiento en paralelo se tiene que conocer exactamente lo que está adentro para particionar las trayectorias en el programa de tal modo que la comunicación entre los procesadores sea minimizada. Y eso dependería de cómo los procesadores están conectados, por ejemplo.

Por lo tanto cuan a menudo se comunican depende de las conexiones de diseño, si están conectado linealmente o si son bidimensionales o hipercúbico. También, cómo la información se procesa: Si es un bit o si es procesado por los bits múltiples tiene mucho que ver en cómo se diseña el programa para el procesamiento en paralelo. De modo que se necesita conocer mucho acerca de la arquitectura para poder diseñar el programa realista que funcionará con rapidez.

Es posible diseñar las cosas teóricas algo independientes de la arquitectura. Pero entonces pueden desempeñarse mejor que un procesador secuencial o pueda que no cuando realmente se utilicen en una máquina. Así, mi antecedente en la electrotecnia, la arquitectura de computadoras y la construcción de computadoras han sido útiles al darme ideas de los componentes internos y cómo perfeccionar su uso.

FCN: Usted también está haciendo investigaciones sobre las estructuras discretas y los algoritmos de optimización. Gran parte de las matemáticas utilizadas en la ciencia de computación es de origen reciente o como el álgebra de Boolean, fue una curiosidad matemática sin aplicación real hasta que las computadoras fueron inventadas. En el procesamiento en paralelo, ¿desarrolla usted nueva matematicás para manipular los requisitos de programación de los procesadores de paralelo?

DEO: Sí, la mayoría de las matemáticas aplicadas son de base contínua, como el Cálculo. Cuando las computadoras entraron en la escena, nos dimos cuenta de que las matemáticas clásicas, las matemáticas previas a la Revolución Industrial del Siglo 19, usado por los ingenieros y los físicos, estaba de muy poco uso en la ciencia de computación. Las matemáticas clásicas eran las matemáticas de contínuo. Se está tratando, en otras palabras, con una curva sin divisiones en este tipo de matemáticas.

En la ciencia de computación, las cosas son discretas. No se trata con las cosas contínuas. Se tiene un número y luego otro número. No hay forma de representar cualquier cosa entre esos dos números. Si se tiene un cero en el último bit, entonces la siguiente representación sería un uno. No existe nada entre los dos números, existe un espacio en blanco entre ellos. En Cálculo los números varían en un modo contínuo, hay siempre un número entre otros. Por lo tanto las matemáticas de base contínua no funcionaría.

Así las cosas varian discretamente, que resulta siendo una diferencia. La otra es que resulta muy complejo. Los recientes semiconductores de alta densidad tienen un promedio de 1.2 millones de transistores en cada semiconductor. Ahora, con esa cantidad de transistores en un semiconductor se tiene que tener un rastreo para localizarlos. En las matemáticas clásicas con esa cantidad de elementos se utiliza la mecánica estadística. Como las moléculas, en la química, se tiene en cuenta el comportamiento estadístico. No hay que preocuparse por lo que le ocurre a cada molécula individualmente. Se modela, pero no es necesario mantener pista de ello para su localización. En la ciencia de computación, se tiene que mantener pista de los transistores individuales, los circuitos individuales y los elementos individuales. Su comportamiento estadístico no le hará ningún bien. De modo que no existe una rama bien desarrollada de las matemáticas que pueda manipular esa cantidad de elementos que interactúan y se acoplan mutuamente. Nos dimos cuenta de que se habían agotado las herramientas matemáticas y tuvimos que desarrollar las matemáticas a medida que progresábamos. Aquí es donde las matemáticas

"The thing to do is to emulate what California has done. [They] started with almost nothing, but they drew people from all over the world because they have an excellent university system.

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"The quality of the schools reflects the quality of the teachers, the quality of the parents and the awareness of the public. It is what the public demands.

The key to this is money. We must spend the money on education."

these powerful tools.

FCN: So, your research here is continuing and coming along well?

DEO: Yes, it is going well. We have a modest amount of funding and are looking at ways of getting more. It will be a great benefit to companies here, to have in five years time, locally trained people proficient in parallel processing.

DEO ON EDUCATION

FCN: Florida is having a hard time providing enough trained people for all the industries coming in. What would you suggest to attract high caliber, well trained people to the area and what do you think we need to do to establish a training base here in Florida?

DEO: The thing to do is to emulate what California has done. California started with almost nothing, but they drew people from all over the world because they have an excellent University system. They are willing to spend money on education. And then it grows. It becomes a self sustaining population. You look at the number of industries it attracts. Institutions of higher education is a good point to start and a good investment of money. You get a lot of hidden benefits.

For example: I am sending my son out of state to college. It is going to cost me $18,000. If I were in California, I would send him to Berkeley and it wouldn't cost me much. So if I am going to come to Florida to work I have to take that into account. The state has to end up paying me, or anyone else, that additional $13,000 to come and work here. Therefore it is much better if the state has good public schools. You asked what we could do for a strategy, well in California they invested heavily in education and you can see it has paid off.

FCN: Do you have any thoughts on how we can improve our public schools?

DEO: Well the quality of the schools reflect the quality of the teachers, the quality of the parents and the awareness of the public. It is what the public

discretas intervienen. En las matemáticas discretas se suma, se clasifica, se enumera y no se integra. La teoría de gráfica está convirtiéndose en una herramienta muy poderosa en la ciencia de computación.

FCN: Anteriormente usted dijo que en cinco o diez años las computadoras personales tendrán procesadores en paralelo.

DEO: Correcto. Así que para la industria de programación que se está desarrollando rápidamente en la Florida, este es un momento crítico para que se integre al modo de procesamiento en paralelo. Las máquinas del futuro serán paralelas y el programar las máquinas de paralelo es muy diferente a programar las máquinas secuenciales.

FCN: Cuando el procesamiento en paralelo realmente llegue al mercado, éste provocará una tremenda rebelión en la industria de computadoras, ¿no es así?

DEO: Sí, es una revolución dentro de una revolución. La industria de computadoras es en sí misma una revolución. Es la segunda revolución, la revolución industrial fue la primera; ahora tenemos otra revolución dentro de la revolución. Una gran cantidad de cosas que no eran posibles con el proceso secuencial ahora son posibles con el procesamiento en paralelo.

FCN: Muchas compañías Sudamericanas están interesadas en el procesamiento en paralelo, ya que las supercomputadoras son tan prohibitivamente caras. ¿Quiere usted comentar al respecto?

DEO: Sí, los procesadores paralelos sería la mejor opción para ellos. En vez de gastar los aproximadamente $25 millones de dólares para una supercomputadora, pueden gastar entre $100,000 y $200,000 para una computadora en paralelo, luego entrenar al personal, aprender a utilizar esa máquina y estarán obteniendo el poder de la supercomputadora.

FCN: ¿Prevee usted el desarrollo de un programa que pueda tomar un programa secuencial y darle un algoritmo para ser reescrito para un procesador paralelo?

DEO: Sería muy agradable tener eso, pero no lo preveo en el futuro cercano. Los científicos de computación han soñado durante mucho tiempo con escribir un programa maestro que podría generar programas para el usuario. Usted le diría al programa maestro que el escriba un buen programa para hacer tal y tal cosa. Entonces el programa maestro escribiría el programa mientras usted se sienta a esperar.

FCN: Eso sería ir un poco lejos, pero ¿qué acerca de un programa maestro para un conjunto particular de problemas?

DEO: Bueno, existen algunos. Pero la velocidad solamente sería quizás dos o tres veces el de un procesador secuencial, cuando puede ser unas mil veces mayor. Para un sobconjunto particular de problemas, piénselo. Requiere una comprensión profunda del problema, la arquitectura y otras variables. Algo como eso aún se encuentra distante. Primero se necesitan años de experiencia escribiendo programas en paralelo. Entonces podremos hacer las comparaciones entre ellas y averiguar qué hace un buen programa de paralelo. Por ahora necesitamos aprender a programar los procesadores paralelos.

Para un negocio de programas, que sea la onda del futuro, necesitan comenzar a aprender a cómo hacer éstos de modo que dentro de cinco años no estén rezagados.

FCN: ¿Dónde se aprende eso?

DEO: Al llegar a UCF.

FCN: ¿Quiere decir que el centro de procesamiento en paralelo repercutirá positivamente en UCF?

DEO: Sí, y eso sería excelente. Será muy bueno para UCF y para la industria de programación y la comunidad en general. Hemos hecho un comienzo. Actualmente enseñamos el procesamiento en paralelo a estudiantes, utilizando los simuladores y conductores. Para el fin de año deberíamos tener nuestro propio procesador paralelo. Empleamos recientemente a un nuevo miembro de la facultad que estará trabajando conmigo y mis cinco estudiantes doctorales. La universidad nos da una suma modesta con que comenzar.

FCN: ¿Cuáles son sus objetivos a largo plazo para el centro de procesamiento en paralelo?

DEO: Bueno, deseamos establecer una biblioteca de los procedimientos, del programa, de procesamiento en paralelo. También, proveeremos un lugar donde la industria de computadoras pueda enviar sus programaciones para que aprendan el procesamiento en paralelo. Es un proceso progresivo. No se puede tomar un curso corto de tres meses en alguna parte y

demands. I don't know if it is the retired population that keeps voting down funding for schools, but funding is low. Actually there is no outstanding institution of higher learning in all of Florida. Not that you could compare with the Ivy League schools or Cal Tech, for example. The University of Florida just became a member of the American Institution of Universities last year and that is a hundred year old institution. The idea that there should just be one institution where high class research is done, and all the rest should just be for teaching is a bad idea, I think. California doesn't do that. New York doesn't do that. Texas doesn't do that. The key to this is money. We must spend the money. It is well spent on education. They complain about the quality of teachers in the public schools...

FCN: Well, they are trying. The state has recently, last year in fact, started giving content exams to teachers in their subject area. If you want to teach history, you now have to take a test on the history you are expected to teach in high school. We didn't have that requirement before.

DEO: Yes, you must know what to teach as well as the theory of how to teach. In most countries, the teachers get a four year degree in their subject and then they take an extra year for education.

FCN: People are not going to do that for twenty thousand dollars a year.

DEO: Exactly! Why should they!

FCN: Florida now has a *Beginning Teacher Program.* If you have a Masters degree in math and have taught five, ten or even twenty years in another state you must still go through this program to be certified in Florida. There is a list that observers come in and check the teacher for. So, for example, if a student asks a question, and the teacher digresses from the lesson plan by exploring what has come out of that question, he may lose points and not be rehired.

DEO: The first thing a good teacher must have is enthusiasm. If you don't have enthusiasm, nothing counts. If you have enthusiasm and knowledge of your subject, nothing else really matters. I hope these observers have a mark for enthusiasm.

FCN: How do you find the math education here.

DEO: There are a few exceptional teachers who like math and enjoy math, but most teachers here are very poorly prepared to teach math.

FCN: How do you feel about a program in which specially trained elementary math teachers come into the class, rather than expecting our elementary teachers to be experts in all subjects?

DEO: That could be a good program, but you have to spend money for it.

regresar siendo un programador paralelo. Así, que sería más costeable y eficiente para las compañías basadas en y alrededor de la Florida el enviar a su personal para ser entrenado aquí, en contraposición a enviarlos a California, por ejemplo. Si se los envía a California, pueda que no regresen. También, estamos comenzando a establecer una biblioteca de referencia de los manuales y los escritos técnicos en el procesamiento en paralelo.

Esto sería extremadamente caro para que cada compañía tenga su propia biblioteca extensiva de estos materiales, por eso los tendremos aquí para el uso de dichas empresas. Y por supuesto, estaremos continuando nuestra investigación para mejorar la calidad del procesamiento en paralelo, y mejorar la eficiencia al utilizar estas herramientas poderosas.

FCN: ¿De modo que su investigación aquí es contínuo y progresivo?

DR. DEO: Sí, todo está marchando bien. Tenemos una cantidad modesta de fondos y estamos considerando modos de cómo obtener más. Será un gran beneficio para las compañías aquí, el tener en cinco años, personal experto entrenado localmente en el procesamiento en paralelo.

EL DR. DEO Y LA EDUCACION

FCN: La Florida está teniendo dificultades para ofrecer suficiente personal entrenado a las industrias que llegan a este estado. ¿Qué sugiere usted para atraer personal de alto calibre, bien entrenada al área y qué piensa usted debemos hacer para establecer una base de entrenamiento aquí en la Florida?

DEO: Creo que se debe emular lo que se ha hecho en California. Allí se comenzó con casi nada, pero atrayeron a gente de alrededor de todo el mundo porque tienen un excelente sistema de universidades. Además estaban dispuestos a gastar dinero en la educación. Como resultado hay crecimiento. Convirtiéndose en una población que se auto sustenta. Se ve la cantidad de industrias que atrae California. Las instituciones de la educación superior es un buen punto para comenzar y una buena inversión. Se obtienen una gran cantidad de beneficios que están ocultos a simple vista. Puedo ser un ejemplo, ya que estoy enviando a mi hijo fuera del estado al la universidad. Esto me cuesta $18,000 dólares. Si estuviera en California, le enviaría a Berkeley y no me costaría mucho. De modo que si vengo a trabajar a la Florida tengo que tomar eso en cuenta. El estado termina pagándome, o a cualquier otro, esos $13,000 dólares adicionales para venir y trabajar aquí. Por lo tanto es mucho mejor si el estado tiene buenas escuelas públicas. Usted preguntó qué se puede hacer para una estrategia, bien en California invirtieron pesadamente en la educación y se puede ver lo bien repagado de ese gesto.

FCN: ¿Tiene usted algunas ideas de cómo podemos mejorar nuestras escuelas públicas?

DEO: Bien, la calidad de las escuelas reflejan la calidad de los maestros, la calidad de los padres y la conciencia del público. Es lo que demanda el público. No se si es la población retirada la que vota en contra del financiamiento para las escuelas, pero el financiamiento es bajo. Realmente no existe una institución sobresaliente de aprendizaje en toda la Florida. Al menos no que se pueda comparar con las escuelas Ivy League o Cal Tech, por ejemplo.

La universidad de Florida se convirtió en miembro de la Institución Americana de Universidades el año pasado y ésta es una institución que tiene cien años de existir. Pienso que la idea de tener una institución donde las principales investigaciones se hagan y que todo lo relacionado con enseñanza se dé en las demás instituciones, es una mala idea. En California no se hace así. Tampoco en Nueva York ni en Texas.

La clave para esto es dinero. Tenemos que gastar dinero. Es bien invertido en la educación. Se quejan acerca de la calidad de los maestros en las escuelas públicas...

FCN: Bueno, están intentando. El estado recientemente, de hecho el año pasado, comenzó a dar exámenes de contenido a los maestros en sus respectivas áreas de enseñanza. Si usted quiere enseñar historia, usted ahora tiene que tomar un examen sobre la historia que usted quiere enseñar en la secundaria. No tuvieron ese requisito antes.

DEO: Sí, se tiene que conocer lo que se va a enseñar así como la teoría de cómo enseñarlo. En la mayoría de los países, los maestros obtienen un grado de cuatro años en su tema y entonces toman un año extra para la educación.

"Why should a physics teacher move here? [He or she] obviously values education. Where would he send his children here?"

FCN: It seems that we ask a lot of our elementary school teachers. They have to be experts on English, reading, math, science and social studies. Then they also have to be able to identify developmental problems and try to intervene. It seem that it is asking a lot for any one person to be able to perform well on all those things.

DEO: Yes, I agree. It would be better to have specialized classes, where the teacher can constantly challenge the students so no one gets bored or the other extreme - left behind. Boredom is the greatest danger. I don't mind a teacher who over challenges the students, but one who under challenges is deadly.

FCN: So, to sum up what you are saying about Florida's education system, you think we just don't spend enough money on it?

DEO: That's right. There is not enough money being spent.

FCN: Do you think that applies to all levels?

DEO: Well, high education I am more familiar with. The universities, I know.

FCN: Florida has a program to give math education students up to $4,000 a year in return for agreeing to teach math for so many years in Florida.

DEO: I think that's a step in the right direction.

FCN: Physics teachers are hard to find in Florida, some high schools can no longer find teachers qualified to teach high school physics.

DEO: Well, why should a physics teacher move here? Someone who teaches high school physics obviously values education. Where would they send their children here? Why should they come here? They will go to a state that has good universities. Where are Florida's bright honor students going. Most of them go somewhere out of state for college. Of course we have some very good students here. But take our library, for example. It is pathetic. Libraries of most good institutions never close. They stay open twenty-four hours a day, seven days a week. Of course, all this costs money. Florida universities have some very good departments, like this one, but the higher education is uneven. It is very good in few areas, but there is no single university that is first class in all or many different areas.

FCN: Thank you for taking time to talk with us. We will be interested in reporting new developments as they occur here.



"We must spend the money. It is well spent on education."

FCN: La gente no hará eso indefinidamente.

DEO: Exactamente, ¿por qué debieran?

FCN: La Florida cuenta hoy con un Programa para Maestros Iniciales. Si usted tiene un doctorado en matemáticas y ha enseñado cinco, diez o hasta veinte años en otro estado usted tiene que pasar este programa para estar certificado en la Florida. Hay una lista en la que los maestros son revisados por observadores. Así, por ejemplo, si un estudiante pregunta, puede perder los puntos y no ser recontratado.

DEO: Lo primero que un buen maestro debe tener es entusiasmo. Si no se tiene entusiasmo, nada cuenta; si se tiene entusiasmo y conocimiento del tema, no hace falta más nada. Espero que estos observadores tengan una calificación para el entusiasmo.

FCN: ¿Cómo encuentra usted la educación de matemáticas aquí?

DEO: Hay algunos maestros exceptionales que gustan las matemáticas y disfrutan las matemáticas, pero la mayoría de los maestros aquí están pobremente preparados para enseñar las matemáticas.

FCN: ¿Cuál es su sentir acerca de un programa en que los maestros, especialmente entrenados en matemáticas elementales, entren a dar clase, antes a esperar que los maestros elementales sean expertos en todos los temas?

DEO: Ese puede ser un programa bueno, pero se tiene que gastar dinero para ello.

FCN: Parece que esperamos mucho de nuestros maestros de escuela primaria. Tienen que ser expertos en Inglés, lectura, matemáticas, ciencia y estudios sociales. Entonces también tienen que poder identificar los problemas evolucionistas y tratar de intervenir. Parece que es pedir mucho de una sola persona, el poder desempeñarse bien en todas aquellas ramas.

DEO: Estoy de acuerdo. Sería mejor tener clases especializadas, donde el maestro pueda retar constantemente a los estudiantes de modo que nadie se aburra o se razague. El aburrimiento es el mayor peligro. No me preocupa un maestro que reta demadisado a los estudiantes, pero uno que no lo hace del todo resulta mortal para los estudiantes.

FCN: Asi, que resumiendo lo que usted ha dicho acerca del sistema de educación de la Florida, ¿piensa usted que no gastamos el dinero suficiente en él?

DEO: Eso es correcto. No se está inviertiendo suficiente dinero.

FCN: ¿Piensa usted que eso se aplica a todos los niveles?

DEO: Bueno, estoy más familiarizado con la educación superior. Conozco las universidades.

FCN: La Florida tiene un programa para dar a los estudiantes de educación de matemáticas hasta $4,000 por año en recompensa por acceder a enseñar matemáticas por algunos años en la Florida.

DEO: Pienso que ese es un buen paso en la dirección apropiada.

FCN: Los maestros de física son difíciles de encontrar en la Florida, algunas escuelas secundarias no pueden encontrar maestros calificados para enseñar la física de secundaria.

DEO: Bueno, ¿por qué debería un maestro de física mudarse aquí? Alguien que enseñe la física de secundaria obviamente es alguien que valora la educación. ¿Dónde podrán enviar sus hijos aquí? ¿Por qué deberían venir aquí? Irán a un estado que tiene buenas universidades. Donde van los brillantes estudiantes de honor de la Florida. La mayor parte de ellos van a alguna parte fuera del estado para la universidad. Por supuesto, tenemos algunos buenos estudiantes aquí. Pero tomemos nuestra biblioteca, por ejemplo. Es patético. Las bibliotecas de las instituciones buenas nunca cierran. Permanecen abiertas veinticuatro horas al día, siete días a la semana. Por supuesto, todo esto cuesta dinero. Las universidades de la Florida tienen algunos departamentos buenos, como estas, pero la educación superior es desigual.

Es muy bueno en algunas áreas, pero no se puede singularizar la universidad que es primera clase en todas o muchas diferentes áreas.

FCN: Gracias por tomar tiempo para hablar con nosotros. Estaremos muy interesados en informar acerca de nuevos desarrollos a medida que éstos ocurran aquí.

CROSSING THE INTERNATIONAL DATA LINE

by Roger Jeanty

The untapped opportunities for Spanish language software...

American manufacturers always take a long time to realize that not all their potential customers speak English. By contrast, the typical European company quickly realizes that the markets that speak the same language are limited to one or two countries, and so *immediately* starts thinking in terms of international issues and linguistic differences.

Japan has emphasized exports ever since it started its industrial expansion, and Japanese manufacturers build in international considerations right from the design stage of most products. Although many products imported from Japan contain documentation translated into English that can make the reader smile, at least there is an effort to speak the customer's language.

The domestic market is so large in America that international linguistic issues will generally only surface in the strategies of U.S. companies well after the product is established on its home turf. Typically, the U.S. executive responsible for international product planning considers translation and product localization as a troublesome afterthought, something they will retrofit into the product later on. Of course, this meets with varying degrees of success. This lack of planning for product internationalization is a factor inhibiting stronger exports that is only recently being addressed in a more comprehensive way by American exporters.

While linguistic issues are often considered as secondary to the international executive, they can have a major impact on the decision-making of potential customers who do not happen to speak English, or prefer products in their own language.

This is all the more critical in the computer industry, software in particular. Computers and software process information, and information generally contains a linguistic component, unless it is all graphics and icons. In software, beyond the actual diskette media and the functionality of the code, it is the user interface and the documentation that can attract favorable response from the end-user; if you do not consider the appeal of graphic design elements, the totality of the user interface and documentation is highly linguistic in nature.

"How convenient can it be to write in Spanish ever day using a word processor that doesn't have a Spanish spell-checker, where all the menus, formatting instructions, and error messages appear in English, and which has a 400-page manual describing all of its advanced features in fairly complex English?"

Yes, but technical users all speak English...

The concept that anyone who uses a computer speaks English might have been true to an extent in the seventies and early eighties, but it is an increasingly dangerous argument to cling to in the globalization of the computer world that is likely to occur in the nineties.

Many individuals, even with technical background, overestimate their command of a foreign-language, here in America and also in other countries. Speaking conversational or "business" English may not be of much help to understand the intricacies of setting up a query for a database program, varying the kerning or width tables in a desktop publishing package, or specifying composite records and fields in a forms program or application generator linked to a relational database. A host of complex activities have now become routine when using computers, and it is not enough to just master the basic DOS commands on a PC or understand most of the icons on a Macintosh.

Also, the worldwide spread of computer usage means that increasing numbers of end-users are not technical, do not really speak any English at all, and may not even have any desire to use, on a daily basis, a product that is in a foreign tongue.

Yes, your data processing professional who works for a large corporation in Caracas may prefer to have his manuals in English, but the accounting department, the graphic designers, the marketing

"Japanese manufacturers build in international considerations right from the design stage of most products."

CRUZANDO LA LINEA INTERNACIONAL de Información

Por Roger Jeanty

Las oportunidades desconocidas para el software en la lengua española

Los fabricantes Americanos siempre tardan en darse cuenta que sus posibles clientes no hablan inglés. Por lo contrario, una típica compañía europea se da cuenta rápidamente que los mercados que hablan la misma lengua están limitados a uno o dos países, y así *inmediatamente* empieza a tomar en cuenta los factores internacionales y las diferencias lingüísticas. .

El Japón le ha dado un lugar primordial a las exportaciones desde que empezó su apogeo industrial, y los fabricantes japoneses incorporan aspectos internacionales en la mayoría de sus productos desde la etapa de diseño. Aunque la mayoría de los productos que se importan del Japón contienen documentación traducida al inglés, lo que puede ponerle una sonrisa en los labios, por lo menos se ve un esfuerzo en hablar la lengua del cliente.

El mercado nacional es tan grande en los Estados Unidos que los factores lingüísticos internacionales pasarán solamente a ser parte de las estrategias de las compañías estadounidenses bastante después que el producto se haya establecido localmente. Típicamente, un ejecutivo de los Estados Unidos encargado de la planificación internacional del producto, considera la traducción y la localización del producto una molestia, algo que se tendrá que hacer en forma retrospectiva más adelante. Naturalmente, esto sucederá con varios grados de éxito. Esta carencia de planificación que se le da a la internacionalización del producto es un factor que contribuye a la poca fuerza de las exportaciones y de lo que se está hablando recientemente en una manera más abierta por los exportadores americanos.

Mientras que los factores lingüísticos son frecuentemente considerados como algo secundario para el ejecutivo internacional, ellos pueden tener mucho que ver en la decisión de sus posibles clientes que no hablan inglés o que prefieren los productos en su propia lengua.

Esto es lo más crítico en la industria de las computadoras, especialmente en el software. Las computadoras y la información de proceso del software, y la información en general contiene un componente lingüístico, a menos que sea todo a base de gráficos y de iconos. En el software, más allá del medio del disquete y de la función del código, es la interfaz del usuario y la documentación que puede atraer una respuesta favorable del usuario; si no se considera el recurso de los elementos del diseño gráfico, la totalidad de la interfaz del usuario y de la documentación es altamente lingüística en naturaleza.

Sí, pero todos los usuarios técnicos hablan inglés...

El concepto de que todo el que usa una computadora habla inglés habrá sido verdad hasta cierto punto en los setenta y al principio de los ochenta, pero se ha convertido en un argumento peligroso del cual sostenerse en la universalización de las computadoras que está por ocurrir en los noventa.

Muchas personas, inclusive personas con conocimientos técnicos, sobreestiman el comando de las lenguas extranjeras, tanto aquí en los Estados Unidos como en otros países. El inglés de conversación y el de "negocios" no será del todo útil para comprender las complicaciones de cómo instalar un cuestionario para un programa de base de datos, cómo variar el kerning (cortaduras del cran) o el ancho de las tablas en el paquete de publicación de sobremesa, o cómo especificar registros compuestos y campos de datos en un generador de aplicación conectado a cierta base de datos. La principal de una serie de actividades complicadas se convertirá en una rutina cuando se usen las computadoras, y no se trata solamete de dominar los comandos básicos de DOS en una PC para comprender la mayoría de los iconos en una Macintosh.

También, la expansión mundial del uso de computadoras significa que el número creciente de usuarios no está compuesto solamente de técnicos, personas que hablan inglés, o de personas que tengan el deseo de usar un producto a diario que esté en otro idioma.

Sí, el profesional de un procesador de datos de una corporación gande en Caracas preferirá tener sus manuales en inglés, pero el departamento de contabilidad, los diseñadores gráficos, los comerciantes ejecutivos, el personal de oficina y administrativo usarán español en sus transacciones de cada día.

¿Cuán conveniente puede ser escribir en español todos los días usando un procesador de palabras que no tenga un corregidor de palabras en español, en donde todos los menús, las instrucciones de formato, y los mensajes de error aparecen en inglés, y acompañado de un manual de 400 páginas describiendo

executives, the clerical and administrative personnel all use Spanish in their everyday transactions.

How convenient can it be to write in Spanish every day using a word processor that doesn't have a Spanish spell-checker, where all the menus, formatting instructions, and error messages appear in English, and which has a 400-page manual describing all of its advanced features in fairly complex English?

Analysts are now finding that the 1992 European community may even increase the requirement for local language, as linguistic differences become one of the few remaining cultural characteristics and end-users have increasingly high expectations about customized and personalized products, services and solutions to their needs.

There is no doubt that translation and software localization improves sales. More than ever, due to increasing worldwide competition, products can no longer rely only on their inherent features and functionality to capture market share.

International users now expect translated/localized product, and this trend will inevitably increase in the Spanish-speaking areas of the western hemisphere.

Think of providing translated product as an advertising investment...

If you read foreign-language computer magazines, it doesn't take long to see the bias towards products that are localized and have translated documentation. Almost always included as one of the criteria in product comparison tests, the availability of a native-language version and/or translated documentation is an immediate advantage over the competition. It also generates the kind of favorable free press every distributor likes and indicates a commitment to the local marketplace on the part of the manufacturer.

While it is impossible to determine the exact factors that influence individual buying decisions, it is simple to see that those hardware and software products that sell well, are those that provide either a local-language version or at least translated documentation. Put yourself in the shoes of the individual in Mexico choosing a major system, a microcomputer or a spreadsheet package for corporate or even personal use: only one of the competing products has Spanish documentation, only one of the software packages has Spanish menus, prompts and messages. Which one do you think he would choose?

As an additional benefit, most non-English publications will publish press releases announcing the availability of a software product translated into the local language.

Central and Latin America, a burgeoning opportunity...

While many software product managers make translated product or documentation available for the two largest overseas computer markets that do not speak English, France and Germany, they often miss many opportunities available in Italy and Scandinavia but especially Spain when combined with Latin and Central America.

Officially, Spain has now followed France in making translated documentation a legal requirement for importing technological products. In practice, this does not affect products already introduced, and is only being enforced very slowly.

However, when one starts thinking of the potential computer usage in Latin America, Central America and of those users who prefer to work in Spanish in the U.S., the impetus for translating products into Spanish becomes much stronger.

Just as the first efforts at product localization into French and German made by Lotus, Microsoft and other major companies just 8 to 10 years ago established these companies in those overseas markets, now is the time for U.S. companies to establish themselves in the Spanish-speaking market and take the market lead.

Successful products tend to be the ones that are localized, and true commitment to a non-English speaking market requires that the localized product versions stay "in step" and current with the development and upgrades of the English versions.

The various flavors of Spanish...

It is true that Spanish usage is different from country to country. An "ordenador" in Spain is a "computadora" in Argentina, Mexico and everywhere else. Even the gender of the term is different. Perhaps the proximity of the French word "ordinateur" influenced the term used in Spain, and the English "computer" was a strong factor in the choice of *computadora*.

"While often considered secondary to the international executive, [linguistic issues] can have a major impact on the decision-making of potential customers..."

Another less dramatic example, is the use in Spain of *fuente* as the current translation for the word "font" (as in a typeface design). In Latin America, the terms most frequently used are *tipo* (typeface) or *estilo* (typestyle), depending on the area. However, *fuente* would be understood.

These examples notwithstanding, ask most users and they can easily understand the *written* Spanish of one flavor or another. While it is possible to customize a Spanish translation to the specific cultural needs of one country, it is often much more practical to use a neutral "generic" Spanish that everyone will understand completely.

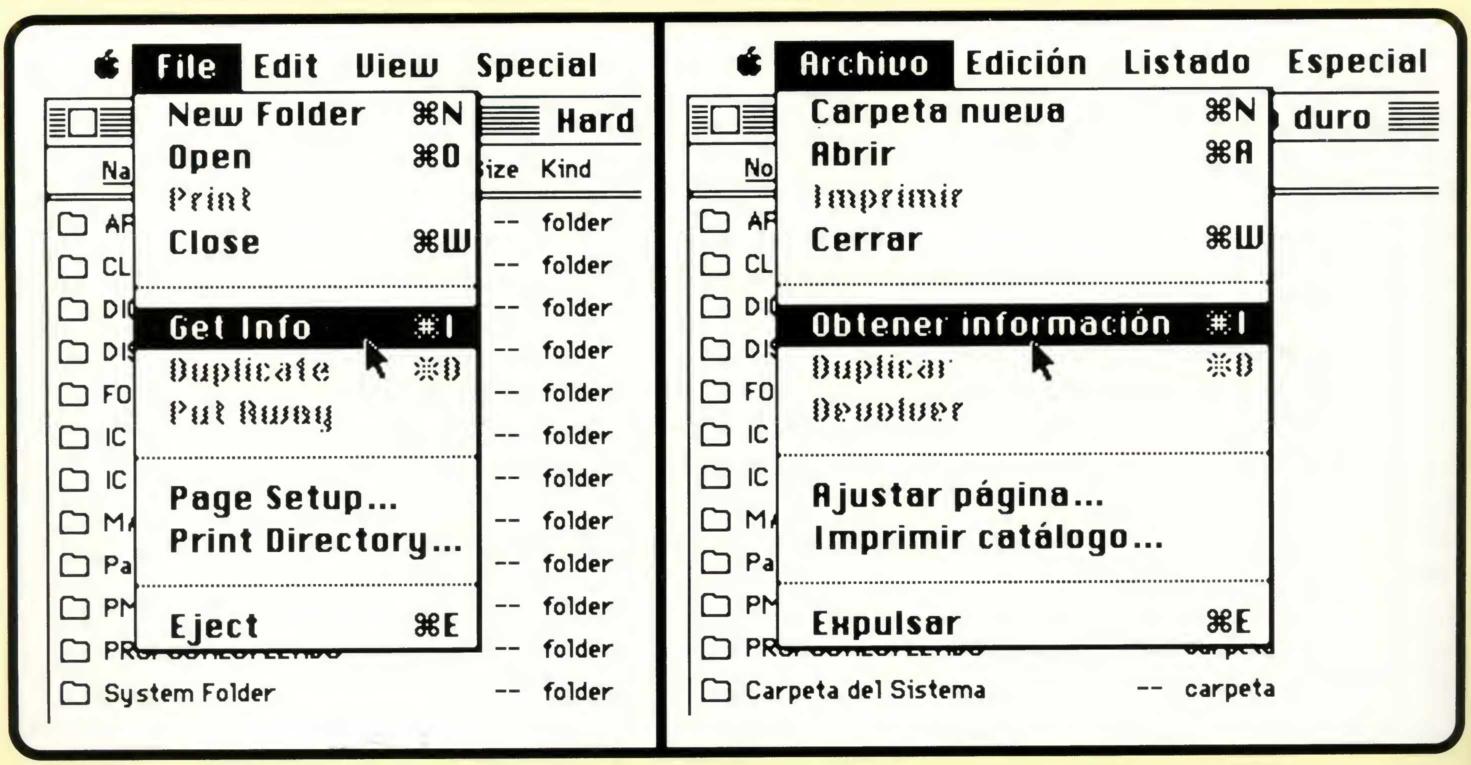
A "generic" Spanish does not contain idiomatic expressions specific to certain countries and regions and retains a straightforward style and structure. The written Spanish used in Latin America is not an "adulterated" form of Castillan Spanish, in that it follows all the grammatical and stylistic rules laid down by the Gran Real Academia Española. However, it does contain some terminological differences and idiomatic expressions particular to Latin America, and in technical texts does have a tendency to preserve more words in their forms derived from English.

The luxury of having two translations for technical documentation is almost always unnecessary (even though the expense of deriving a Latin American version from a Spanish translation should not be extravagant). Many translations are executed first for a Spanish audience. Subsequently, the product is marketed in Latin America, and most Latin Americans have no problem understanding the terminology, even if it uses the word *ordenador*.

For marketing materials however, it is recommended that specific translations or original material be written for the specific market, since marketing materials must contain all the local idioms and buzzwords that will enhance the appeal of the product.

Translation vs. localization

Another piece of computer jargon to add to your



Localization is a value-added in both directions. Not only can software originating in the U.S. be made functionally available to other countries, but powerful software can be brought in and marketed in this country. Acius' *Fourth Dimension,* a powerful relational database and application generator, originated in France. In Miami, Olduvai Software regularly localizes applications created in other countries.

todas sus características avanzadas en un inglés complicado hasta cierto grado?

Los analíticos están encontrando ahora que la comunidad europea de 1992 puede aumentar los requisitos de la lengua local, al mismo tiempo las diferencias lingüísticas se convierten en una de las pocas características culturales restantes y los usuarios tienen altas esperanzas en cuanto a los productos personalizados y preparados para satisfacer las necesidades y cumplir con servicios para el comprador.

No cabe duda que la traducción y la localización del software mejora las ventas. Más que nunca, debido a la competencia creciente en todo el mundo, los productos no se pueden basar solamente en sus características anteriores y en su funcionamiento para tomar parte en el mercado.

Los usuarios internacionales esperan ahora productos traducidos y localizados, y esta dirección aumentará inevitablemente en las áreas de habla español del hemisferio occidental.

Piense en ofrecer productos traducidos como una inversión de publicidad...

Si Ud. lee revistas de informática en otras lenguas, no le tomará mucho tiempo ver la preferencia hacia los productos que están localizados y que tienen su documentación traducida. Casi siempre se incluye la disponibilidad de la versión o de la documentación traducida en la lengua nativa como uno de los puntos más críticos de comparación y es a la vez una de las ventajas inmediatas sobre la competencia. También genera la clase de prensa favorable que a todo distribuidor le gusta e indica un compromiso con el mercado local de parte del fabricante.

Mientras que es imposible determinar los factores exactos que influyen en la compra de cada individuo, no se nos hace difícil ver que aquellos productos de hardware y de software que se venden bien, son aquellos que ofrecen ya sea la versión en una lengua local o al menos la traducción de la documentación. Póngase en el caso de una persona en Méjico que tenga que escoger un sistma, una microcomputadora, un juego de hojas de cálculo para una corporación o uso personal: solamente uno de los productos en competencia tiene la documentación en español, solamente uno de los paquetes del software tiene los menús en español, advertencias y mensajes. ¿Cuál cree que escogerá?

Como un beneficio adicional, la mayoría de las publicaciones que no están en inglés publicarán versiones anunciando la disponibilidad de un producto software traducido en un idioma local.

América Central y América Latina, una oportunidad brotante...

Mientras muchos gerentes encargados del software del producto ponen la traducción del producto o la documentación del software a la disposición de los dos grandes mercados de computadoras internacionales de no habla inglesa Francia y Alemania, ellos también pierden muchas oportunidades disponibles en Italia, Escandinavia, pero especialmente en España, cuando la combinamos con América Central y América Latina.

Oficialmente, España le ha seguido los pasos a Francia estableciendo como ley la traducción de los documentos para la importación de productos técnicos. En práctica, esto no afecta a los productos que ya han sido introducidos, y se está ejecutando en una forma muy lenta.

Sin embargo, cuando uno se pone a pensar del posible uso de computadoras en América Latina, América Central y en aquellos usuarios que prefieren trabajar en español en los Estados Unidos, el ímpetu para traducir los productos en español se vuelve más fuerte.

Con los mismos esfuerzos iniciales que se establecieron para la localización del producto en fancés y alemán, por Lotus, Microsoft y otras grandes compañías de hace 8 a 10 años, ahora es el momento para que las compañías americanas se establezcan en el mercado de habla hispana y que tomen las riendas.

Los distintos sabores del Español...

Es verdad que el uso del español varía de país a país. Un "ordenador" en España es una "computadora" en Argentina, Méjico y en todas las demás partes. Inclusive el género de la palabra es diferente. Quizás, la proximidad de la palabra francesa "ordinateur" influyó en el término usado en España y "computer" en inglés, fué un factor fuerte en la opción de computadora.

Otro ejemplo menos dramático, es el uso en España de *fuente* como traducción de la palabra

vocabulary is the term *localization*. It is used to differentiate translating and adapting the user interfaces of software packages from merely the text translation of documentation.

Localization implies translated menus, error messages and screen prompts, but also indicates the product should support accented letters (diacritics) on the screen and when used with various printers. Full localization also implies the availability of different date/time formats, various currency notations in leading and trailing positions (pesos, sucres, intis, austral, colón, in addition to the dollar-sign $), a comma or a period as a decimal character, various separators for thousands, different types of notations for phone numbers, area codes and zip codes, etc... The list can be quite extensive and many localized products do not always support all of the ideal features.

Is translation/localization very expensive?

In general the answer is no. Translation is labor-intensive and does requires professionally trained technical translators and the technical expertise to make any modifications required to display foreign-language text (Spanish is always longer than English!), but it is a process measured in weeks or at most months but not years.

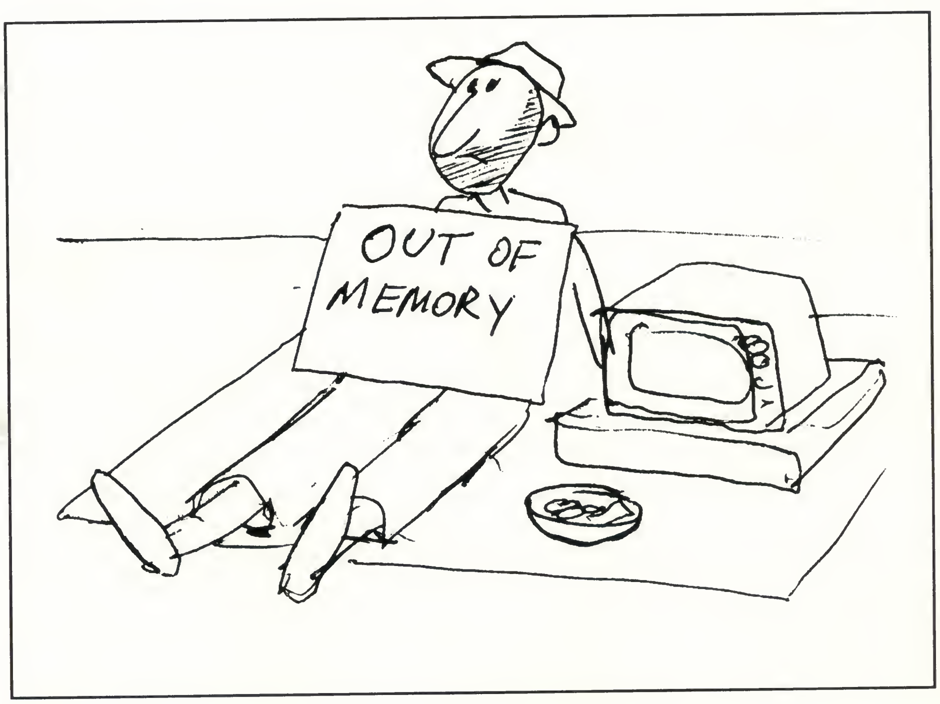
There are some products that are very complex to localize due to the type of application. Accounting packages, for example, must take into consideration country-specific standards of accounting: all the standard forms and formats in the package may have to be customized.

Documentation generally represents the bulk of the cost, often more than three-quarters. Documentation is often very verbose, which takes longer to translate, and then there is the additional cost of layout, graphics that may need to be modified, typesetting or laser-printing, and the cost of printing and assembly.

However, translation/localization is not a major investment when compared to marketing and advertising. As a broad measure, the overall cost of translating a typical software package is not more than that of a few half-page advertisements in a major computer publication.

A summary of strategies...

The Spanish-speaking market represents a still largely untapped potential for computer hardware manufacturers and software developers. This market will require increasing amounts of translation as the typical Latin American computer user becomes less the MIS manager or data processing professional and more the business end-user. In addition, many



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varias unidades monetarias en posiciones anteriores y posteriores (peso, intis, sucre, austral, colón además del signo del dólar $), una coma o un punto como el carácter de punto decimal, varios separadores de miles, diferentes tipos de notaciones para números de teléfonos, código de área y código de ciudad, etc... La lista puede ser bien extensa y muchos productos localizados no siempre sostienen todas las características ideales.

¿Es la traducción/localización muy cara?

posibilidad altamente desconocida para los fabricantes de hardware y para los evolucionadores del software. Este mercado requerirá cantidades crecientes de traducción a medida que el usuario latinoamericano de computadoras se vuelva menos el gerente MIS (Sistema de Información de Gerencia) o el profesional del procesador de datos y más el usuario de negocios. Además, es probable que muchos usuarios de negocios de la parte sudeste o sudoeste americana estén interesados en la disponibilidad de software en un español de calidad para

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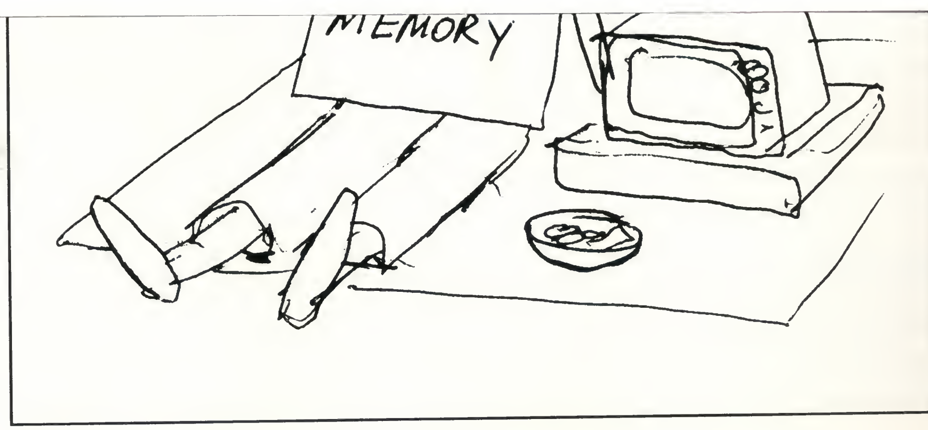
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"font" (como en typeface design). En América Latina, los términos más usados son *tipo* (typeface) o *estilo* (typestyle), de acuerdo al área. Sin embargo se entendería *fuente*.

Estos ejemplos no obstante, son reconocidos por la mayoría de los usuarios como también el español escrito de un país a otro. Mientras que es posible personalizar la traducción del español en cuanto a las necesidades propias del país, es frecuentemente más práctico usar un español genérico que todos comprenderán completamente.

Un español "genérico" no contiene expresiones idiomáticas específicas de ciertos países y regiones y retiene un estilo y estructura directos. El español escrito usado en América Latina no es un castellano alterado, y sigue todas las reglas de estilo y gramática dadas por la Gran Real Academia Española. Sin embargo, contiene algunas diferencias en terminología técnica y expresiones idiomáticas particulares de América Latina, y en los textos técnicos tiene la tendencia de conservar más palabras derivadas del inglés.

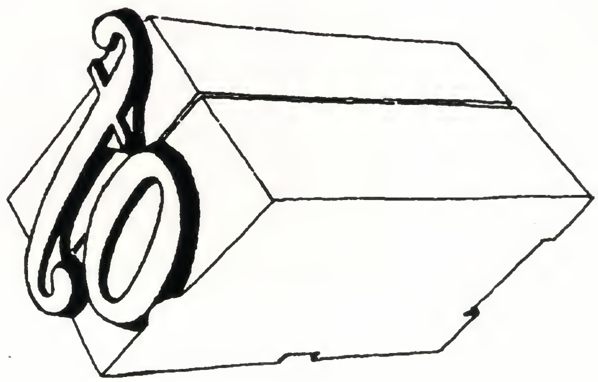
Traducción vs. localización

Algo más que agregar en su vocabulario de jerga de computación es la palabra *localización.* que se usa para diferenciar la traducción y la adaptación de los paquetes de software de interfaces del usuario contra solamente la mera traducción de la documentación.

La localización implica la traducción de los menús, de los mensajes de error y de las advertencias de las pantallas, pero también indica que el producto pueda sostener las letras acentuadas (signo diacrítico) en la pantalla y cuando se use con varias impresoras. La localización completa también implica la disponibilidad de diferentes formatos de hora/fecha, varias unidades monetarias en posiciones anteriores y posteriores (peso, intis, sucre, austral, colón además del signo del dólar $), una coma o un punto como el carácter de punto decimal, varios separadores de miles, diferentes tipos de notaciones para números de teléfonos, código de área y código de ciudad, etc... La lista puede ser bien extensa y muchos productos localizados no siempre sostienen todas las características ideales.

¿Es la traducción/localización muy cara?

Por lo general, no. Las traducciones son intensas en labor y requieren de traductores técnicamente entrenados y de cierta competencia para hacer cualquier modificación requerida para presentar el texto en la lengua extranjera (El español es siempre más largo que el inglés), pero es un proceso gener-



almente medido en semanas o a lo mucho meses, pero no años.

Existen algunos productos que son bien complicados de localizar debido al tipo de aplicación. Los paquetes de contabilidad, por ejemplo, deben tomar en consideración las normas específicas del país: todas las formas standards y formatos en el paquete es posible que tengan que ser personalizados.

La documentación generalmente representa el volumen del costo, frecuentemente más de tres cuartos. La documentación es frecuentemente muy verbosa, lo que toma más tiempo en traducir, y luego hay un costo adicional de disposición, gráficos que pueden necesitar ser modificados, compuestos o impresos a láser, y el costo de impresión e integración.

Un resumen de estrategias...

El mercado de habla-español representa una posibilidad altamente desconocida para los fabricantes de hardware y para los evolucionadores del software. Este mercado requerirá cantidades crecientes de traducción a medida que el usuario latinoamericano de computadoras se vuelva menos el gerente MIS (Sistema de Información de Gerencia) o el profesional del procesador de datos y más el usuario de negocios. Además, es probable que muchos usuarios de negocios de la parte sudeste o sudoeste americana estén interesados en la disponibilidad de software en un español de calidad para

business users in the American southeast and southwest would most likely be very interested in the availability of quality Spanish software for applications such as desktop publishing, small business accounting software, project management, databases, communications and networking packages.



Introducing foreign-language products is most cost-effective if it is well planned and supported over a long period of time and maintained at the same upgrade level as the English products over the lifetime of the product. Then the Spanish-speaking users learn to expect the availability of Spanish-language product and become long-term users and customers.

Translation and localization of computer products is not a difficult proposition if a constructive relationship is established between the developer, the appropriate distribution channels for the foreign-language product, and a qualified team responsible for producing the initial Spanish-language documentation or software interface, and then maintaining and supporting it over the lifetime of the product.

aplicaciones como las de publicaciones de sobremesa, pequeños negocios, software de contabilidad de negocios, gerencia, base de datos, comunicaciones y paquetes de redes.

El introducir los productos en lenguas extranjeras sale más a cuenta en costo si se planea bien y se apoya por un largo período y es mantenido al mismo nivel de actualización como los productos en inglés en toda su duración. Luego, los usuarios de habla-hispana aprenderán a contar con la disponibilidad de los productos en la lengua española y se convertirán en usuarios y clientes de largo plazo.

A pesar de que no es un concepto familiar, la traducción y la localización de productos de computación no dan lugar a una proposición difícil si se establece una relación constructiva entre el fabricante y el evolucionador, los canales de distribución apropiados para el producto en una lengua extranjera, y el equipo calificado responsable para la producción inicial de la documentación en la lengua española o interfaz del usuario, y luego mantener y soportarlo por toda una vida.

Roger Jeanty is President of **International Communications Inc.**, a company headquartered in Natick, Massachusetts that translates documentation and localizes software user interfaces for computer manufacturers in the U.S. and Europe. Mr. Jeanty has 15 years experience in the internationalization of computer products and works extensively with hardware and software manufacturers, their overseas distributors and subsidiairies. His unique approach is to seek and bring together individuals with technical computer skills and native-speaking fluency in languages of the major overseas markets.

Roger Jeanty es Presidente de la firma **International Communications Inc.**, una compañía con sede en Natick, Massachusetts que traduce la documentación y localiza interfaces de programas para usuarios para los fabricantes de computadoras en los E.U. y Europa.

El Sr. Jeanty tiene 15 años de experiencia en la internacionalización de los productos y los trabajos de computadoras extensivamente con los fabricantes de equipo y programas, y los distribuidores y las subsidiarias en ultramar.

Su enfoque único es de buscar y reunir personas con las habilidades de computación técnica y fluidez de hablar en los lenguajes nativos en los mercados principales en ultramar.

NEW CARIBBEAN BASIN INITIATIVE LEGISLATION

A stable political and economic climate in the Caribbean Basin is necessary for its development and for U.S. security and economic interests. This can be accomplished by reaffirming and strengthening of the Caribbean Basin Economic Recovery Expansion Act of 1989 (CBI II).

Our reasons for improving the CBI are two-fold and related. First, a broad range of U.S. national security interests are being directly threatened by continuing economic deterioration in Central America and the Caribbean.

Nowhere can this be seen more clearly than in the massive flow of narcotics into this country. Traffickers are having a field day feeding on the economic despair that grips the region.

Second, the CBI works. An already deteriorating economic situation would have been worse without the CBI. A number of studies, including two by the International Trade Commission, prove that.

This legislation would make an already successful program even more effective by providing expanded duty-free access for CBI exports into the U.S. market.

Highlights of the legislation include these changes in the original CBI bill approved in 1983:

• A guaranteed minimum amount of sugar could be imported from CBI nations.

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Twenty-two non-communist nations in the Caribbean and Central America would be covered by the legislation.

In Florida, we know that strong trade means jobs here in Florida. This legislation underscores the point that trade is more important than aid.

We have made every effort to protect the legitimate interests of U.S. industry. The result strengthens the CBI program, while striking an appropriate balance between the needs of our democratic allies and our own domestic economic interests.

Although the CBI is by no means the final solution to the many complex problems facing the region, it is logically a necessary component of any comprehensive policy. We must restart economic growth in the Basin so that our democratic friends can earn their way back to economic health. Improving the CBI helps us accomplish that goal.

NUEVA LEGISLACION DE INICIATIVA PARA LA CUENCA DEL CARIBE

Un clima político y económico estable en la Cuenca del Caribe es necesario para su desarrollo y para la seguridad y los intereses económicos de los E.U.

Esta se puede lograr reafirmando y fortaleciendo el Acta de 1989 de Recuperación Económica de la Cuenca del Caribe (CBI II). Nuestras razones para mejora la Iniciativa de la Cuenca del Caribe (ICC) es doble y bien relacionado.

Primero, una amplia esfera de los intereses de seguridad nacionales se encuentran amenazadas directamente por el continuo deterioro económico en América Central y el Caribe.

De ninguna manera puede esto estar visto más claramente que en el flujo masivo de narcóticos a este país. Los traficantes están aprovechándose de la desesperación económica que encara esta región.

Segundo, la ICC funciona. En una ya deteriorada situación económica las cosas serían peor sin la ICC. Un número de estudios, incluyendo dos por la Comisión de Comercio Internacional, prueba esto.

Esta legislación haría que un ya exitoso programa sea más efectivo ofreciendo el amplio acceso libre de impuestos a los exportadores de la ICC en los mercados de E.U.

Puntos importantes de la legislación incluyen estos cambios en la Ordenanza original de la ICC aprobada en 1983:

• Una cantidad mínima garantizada del azúcar puede ser importado de las naciones de la ICC.

• La producción de vestimentas con materiales de E.U. estarían permitiendo el reingreso de productos de tejido terminados, libre de impuestos, a los Estados Unidos.

Veintidos naciones no-comunistas en el Caribe y Centroamérica estarían cubiertos por la legislación.

En la Florida, sabemos que mayor comercio significa más trabajos aquí en la Florida.

Esta legislación recalca el punto de que el comerciar es más importante que ayudar con asistencia económica.

Hemos hecho cada esfuerzo para proteger los intereses legítimos de la industria americana. El resultado fortalece el programa de la ICC, mientras impacta un balance apropiado entre las necesidades de nuestros aliados democráticos y nuestros propios intereses económicos domésticos.

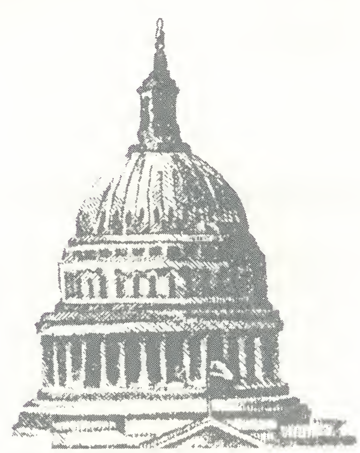
Aunque la ICC no es la solución final a los problemas complejos que encara la región, es lógicamente un componente necesario de cualquier política concebible. Tenemos que reiniciar el crecimiento económico en la Cuenca de modo que nuestros amigos democráticos puedan retornar a la salud económica.

Mejorando la ICC nos ayuda a lograr ese objetivo.

CBI II



by Senator BOB GRAHAM



"This legislation would make an already successful program even more effective..."

TRADING CORNER

This special section is included to focus on trade leads, international opportunities in the computer industry to manufacture, sell, purchase and distribute.
This initial list is provided by the Florida Department of Commerce's Office for Latin American Trade, 2701 Le Jeune Road, Coral Gables, Florida 33134, telephone: (305) 446-8106; Fax: (305) 446-1524. Readers are invited to submit their trade leads opportunity requests to FLORIDA COMPUTER NEWS. Initially, leads seeking to buy or distribute products or services will be published free of cost. Leads offering to sell or manufacture products or services will cost U.S. $15.00 per 30 character line, payable in advance.

For further information, contact:

Publisher, Florida Computer News
P.O. Box 01-5817
Miami, Florida 33101
Telephone: (305) 633-7430 FAX: (305) 634-2708

10- Hardware - seeks to distribute
PC compatibles: 80386, 80286, 8088-1; Xenix, MS-DOS & UNIX multiuser systems

CONTACT: Mr. Carlos Guiterrez, Sales Manager
SYS Cia Ltda.
Avenida El Inca 757 y De los Madroñas
Casilla 10312
Quito, Ecuador
Telefono: 45-8701

11 - Telecommunications - wants to buy
Software, hardware, integrated systems; microwave gateways between PC LANs, independent of local telephone systems; effective raidus 200 km. Requires secure access.

CONTACT: Mr. Luis Jorge Garcia, Admin. Mgr.
Navarro 5138
(1419) Buenos Aires, Argentina
Tel. 553-3608 / 658-0845

9 - Software development - services offered
Complete MIS facilities for government, municipalities, public utilities, telecommunications, & private applications; integration of international standards including localization, training and management.

CONTACT: Mr. Jose Antonio Barros, Manager
SYNAPSIS S.A.
Santo Domingo 1141
Santiago, Chile
Telefono: (56-2) 696-5999
Fax (56-2) 696-5999

8 - Peripherals/Accessories - wants to buy
Diskettes: 5 1/4 double sided, double density, high density: Maxcell, Dysan, IBM, Nashua; printer ribbons: IBM, Epson, Brother;
Printers: IBM - 3262, 5224, 5225, 1401, 1402, 1403; Epson FX-286i, EX 1000, LQ-800, LQ-1500, FX 1050

CONTACT: Mr. Fernando Cordova Pereyra, Mgr.
Computer Byte S.A.
Donatello 281 San Borja
Lima, Peru
Telefono: 37-0221

2- Components/replacement parts - wants to buy
Printed circuit boards, industrial control and testing equipment, CAD/CAM systems

CONTACT: Eng. Tomás de Jarmy, Chief of Electronic Projects
AEG Sistemas Industrials Ltda.
Rua Tabaré, 551
04446 Santo Amaro
Caixa Postale 12582
São Paulo, SP, Brasil
Telefono: (55-11) 24715

9 - Software development - services offered
Software, hardware, integrated systems; microwave gateways between PC LANs, independent of local telephone systems; effective radius 200 km. Requires secure access to terminals; possible assembly & distribution in Argentina.

CONTACT: Mr. Marcello Martinez, Comm. Mgr.
Engimatic S.A.
San Jose 910, Piso 2 - "E"
1076 Buenos Aires, Argentina
Telefono: (54-1) 27-5749/23-8912
Fax (54-1) 355-8464

10- Software/hardware to buy/distribute
PC comaptibles, peripherals. Currently representing Epson, Symbol, Sysgen North Star

CONTACT: Mr. Felipe Salas Cortés, Manager of Engineering & Technical Support
ASICOM, S.A.
Las Violetas 2099, Providencia
Casilla 2652, Correo Central
Santiago, Chile
Telefono: (56-2) 274-5090
Fax (56-2) 274-2963

RINCÓN COMERCIAL

10- Software/hardware to buy/distribute
Scanners, Mouses, networking cards; software for PCs and minicomputers

CONTACT: Mr. Alberto Wayzs, Manager
Habilidad Informática
Gral. Varela 317, Lima 5
P.O. Box 2174, Lima 1
Peru
Telefono: 32-0291

2- Components/replacement parts to buy
Office equipment: computers, calculators, copiers, typewriters; replacement parts; toner, ribbons, etc.

CONTACT: Mr. Eduardo A. Aprile, Presidente
Oserli S.A.
Jr. Restauración 425, Breña
Lima 5, Peru
Telefono: (51-14) 24-6249
Telex: 20300 CP

11- Telecommunications
Data & microwave communications equipment; systems, terminals, banking terminals

CONTACT: Lic. Augusto Monjarez P., Manager
Inverkatty, S.A.
Avenida Diagonal 340, Of. 34
Miraflores
P.O. Box 10147, Lima 1
Peru
Telefono: 46-3968
TELEX: 20488 PE

2- Components/replacement parts to buy
IBM-PC diskettes & supplies

CONTACT: Mr.Pedro A. Mosquera, Exec. Officer
Mayex Import
Comandante Jiminez 193-195,
Magdalena
Lima, Peru
(51-14) 61-6030
and,
1565 Drexell Ave.
Miami Beach, Fl 33139
(305) 531-5336

2- Components / replacement parts to buy
Diskettes, magnetic tapes, ribbons, for UNISYS

CONTACT: Mr. Luis Livala, Administrative Mgr.
Mr. Carlos Loayza, Import Mgr.
Unimark, S.A.
Republicá Chile #476 Of. 601
Lima, Peru
Telefono: 23-6114
Fax: 673-5407

10- Hardware to buy
Computer equipment

CONTACT: Mr.Alfonso Imaña Barrantes, Director
Cia. Minera Imasilsa, S.A.
Espinar 601, Magdalena
Lima, Peru
Telefono: 61-1521 / 61-8253

2- Components/replacement parts to buy
Magnetic tapes, diskettes, hard disks, ribbons, emulation software

CONTACT: Mr. Jose Figari V. Gen. Mgr.
International Suplies, S.A.
Alconfores 195-19=04, Miraflores
Lima, Peru
Telefono: 294-4744

CLASSIFICATION

1. CAD/CAM
2. Components/replacement parts
3. Clipping services
4. Desktop publishing/printing
5. Hardware applications
6. Informatics
7. Localization
8. Peripherals/Accessories
9. Software development services
10. Software/hardware to buy/sell
11. Telecommunications
12. Training/Education

AND AWAY WE GO

APPLE BUILDS A PORTABLE

At 15.7 pounds and 15.3 inches wide, it's more what Roseanne Barr or John Candy might call a laptop.

DELIVERED, after a rather long gestation period (some say four years), Apple's Lovable Luggable, the **Macintosh Portable** computer. At 15.7 pounds and 15.3 inches wide, it's more what Roseanne Barr or John Candy might call a laptop. The machine breaks a lot of new ground in screen technology, power and energy conservation. It also breaks some records for length of development time… The price is encrypted at the end of this article.

The Macintosh Portable is situated to compete with top of the line 286 and 386 machines from Toshiba and Compaq. When all three are fully configured with at least one megabyte of RAM and a 40 megabyte hard disk, the prices are close. Apple feels confident that the Mac Portable comes to the table with a lot more than its competitors—high resolution display, the Mac interface and 8-12 hours of running time on a single charge.

THEY TOOK THEIR TIME

Rather than rush this one out of the garage, they decided to perfect a system before bringing it to market. Apple, however, did not offer the first portable Macintosh. *DynaMac* and *Colby Systems* cannibalized Macintosh parts and offered their own versions, available in various configurations, for three years. The price of screen technology, batteries, and overall market acceptance did not result in any resounding success for *DynaMac* or Colby's *Walk-Mac*, but Apple's timing and technology appear to be right on time with this package. Business users have had a few years to get acquainted with portable computers in general, and Macs in business. Meanwhile work in the labs has proceeded at its usual furious pace.

POWER CONSIDERATIONS

Eight to twelve hours running time between charges is a considerable improvement over the 3 hours that most high-end laptops and portables currently offer. This is a dividend of new screen technology, power supply, chip usage and System software.

The Portable uses a CMOS (Complementary Metal Oxide Silicon) version of the Motorola 68000 processor that consumes about one fifth the power of a standard processor. The CPU runs at 16 MHz (twice the speed of a Mac SE). Obvious future upgrades to this system will include CMOS versions of faster processors and possibly RISC chip sets.

Main memory resides in Static RAM (SRAM) rather than Dynamic RAM (DRAM). Energy requirements are significantly lower, plus memory can be put in a standby mode in which its contents are retained with an insignificant draw from the battery.

The Mac Portable uses a lead acid battery, while most laptops use NiCad (nickel-cadmium) cells for power. Lead acid batteries are fully rechargeable at any point in their cycle, even during use, and offer a "meter reading" to the user showing remaining charge. NiCad batteries characteristically lose power very quickly at the end of their charge cycle, often in a matter of seconds, and offer no direct way of measuring the actual time remaining. Traveling Software offers a clever statistical program, *Battery Watch*, for closely estimating remaining power on a host of portables and laptops, but the reading is based on presumed capacity minus calculated use, and is not an actual reading of the battery's stored charge.

DISPLAY

Better laptops and portables use either backlit screens or gas-plasma displays. Apple uses an Active Matrix LCD. In standard LCD panels transistors control *regions* of pixels on screen. The Portable has a single transistor under every pixel offering much quicker response in a graphic environment, very high contrast and ease of viewing from almost any angle. The screen can be viewed easily in direct sunlight, as well. About the only place you can't see this display is in the dark.

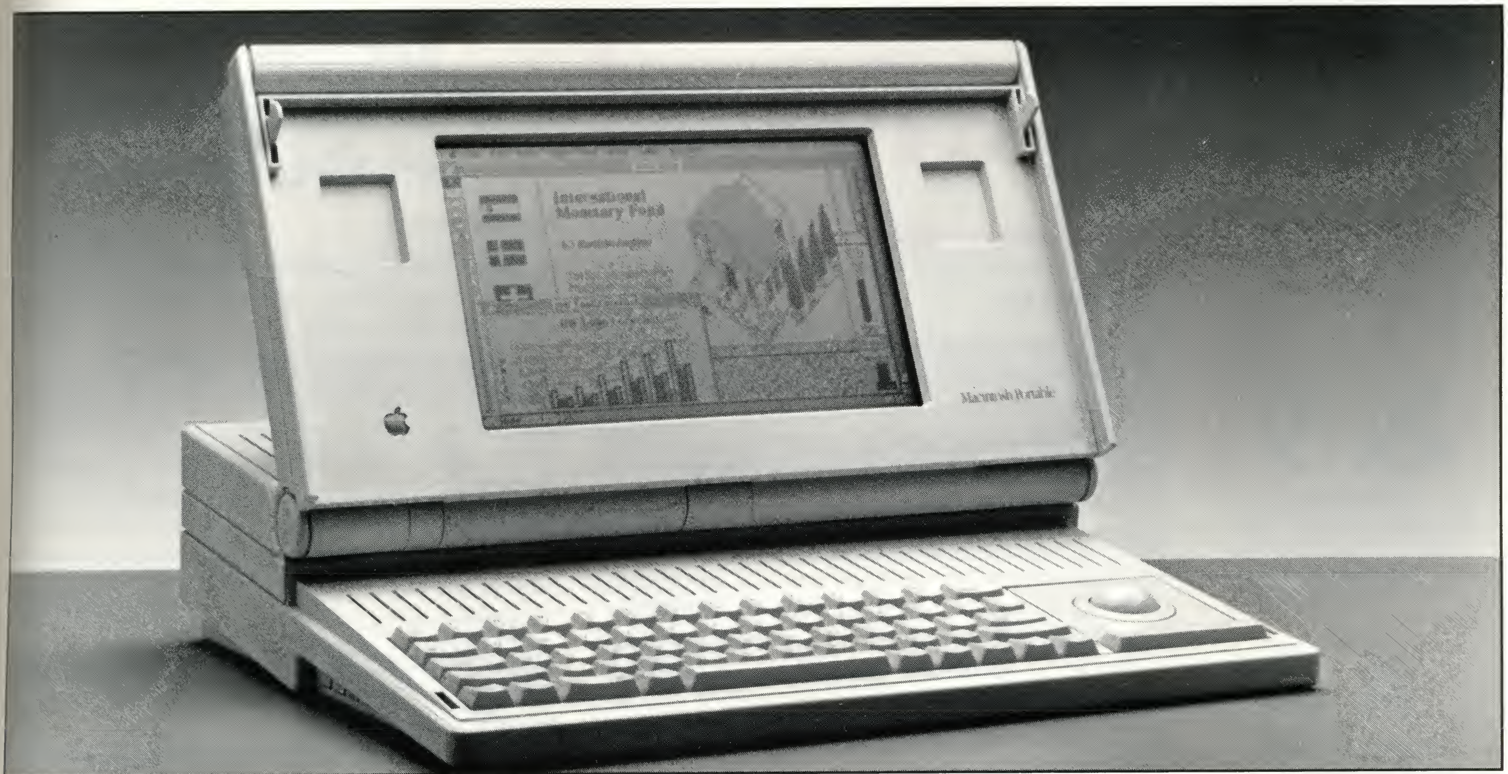
TEST DRIVE A MACINTOSH

It's big and beautiful. No question about it, this is not something to slip into your attache case and diddle with on the subway. The Mac interface is in no way compromised and the screen display really is something to write home about. If you are not a trackball fan there is an optional Mouse to remind you that the slightly different display is, indeed a Macintosh.

Waiting on Lefty: the keyboard is modularized—the trackball pops out, the keys slide to the right and the trackball goes back in for our less fortunate right-brained brethren. An optional keypad replaces the trackball.

I/O

The Portable comes standard with a 1.44 Meg. FDHD SuperDrive that reads, writes and formats Mac, Apple II and MS-DOS media. The current option is a "ruggedized" 40 megabyte internal SCSI



hard disk that zips along at a respectable 25 milliseconds average seek time. Standard ROM incidentally, is 512Kbytes to acommodate as much of System 7 in firmware as possible. There is a 120 pin processor-direct slot inside, a modem slot, both ROM and RAM expansion slots and enough ports in back to confuse the Pirates of Penzance. At introduction there was no shortage of add-ons, Apple's included. Briefly they include:

• *LapLink Mac III*, Traveling Software's high speed file transfer solution between portables, laptops, Macs and PCs. A special Mac to Mac accelerator box transfers data at over 900,000 baud.
(206) 483-8088

• Apple's own 2400 bps modem, reasonably priced at $649.
(408) 996-1010

• Abaton's *InterFax Portable 24/96*, a 2400 bps modem plus a 9600 bps fax modem scheduled for shipment in early 1990.
(415) 683-3601

• Creative Solutions' *ROM Expansion Card*, 800K of firmware for OEMs.
(301) 984-0262

• Iomega's *Bernoulli Portable 44* is battery powered compact removable media.
(801) 778-3345

• Lind Electronic Design Co. Inc. provides a 12 volt power adapter to operate and charge the battery from RV, car, boat or submarine.
(612) 927-6303

• Zero Halliburton offers the *Portable Attache* case, an aerospace aluminum carrier with high-impact foam coating. A removable file pocket is included. **(213) 475-5964**

SINCE PRICE IS NO OBJECT...

So much for the computer for the rest of us. This baby is aimed squarely between the corporate eyes. Don't look for squads of them on college campuses or at user group meetings. This is Apple's first version of picking up Macintosh technology and running with it. And as usual, the best is yet to come.

Basic machine with 1 meg. RAM and no hard disk: ***$5799***

With an internal 40 megabyte hard disk, 2 megabytes of RAM, extra charger and battery: ***$7775***

Whew!

So much for the computer for the rest of us. This baby is aimed squarely between the corporate eyes.



DESKTOP PUBLISHING GLOSSARY

BASIC TYPOGRAPHIC TERMINOLOGY



&&

AMPERSANDS

A **A**

Regular and Bold versions of a letter

Text that is
centered aligns to
an imaginary
line in the
middle
of the
block of
copy



CLIP ART is prepared artwork ready for publication.

Piña Colada
Arivée
Está

DIACRITICS indicate vowels sounds and special letter combinations. Rarely used in English.

AMPERSAND

The "&" character provided in all typefaces signifying the word and; useful in headlines and display.

ASCENDER

The top portion of a lowercase letter that rises above the height of a lower case x. **b**, **d**, and **f** are all ascenders.

ASCII

An almost universally accepted standard for communications. Stands for American Standard Code for Information Interchange; was designed for teletypewriters and is restricted to the alphabet, numbers and limited symbols and machine codes.

BASELINE

An imaginary horizontal line on which all capital letters and lower-case letters rest. Letters g, q, p, w, & y extend below the baseline.

BIT-MAP

Pictures or letters produced from a matrix of black dots, all of which are the same size. The finer the matrix, the higher the resolution.

BOLD

The heavier version of a given typeface. Regular. **Bold**

BUFFER

Main or available memory in a computer or laser printer used for storing fonts to be used, documents being printed, routines or data in use.

CAMERA READY

Art or copy that is ready to be printed, copied, silk-screened or whatever reproduction method is in force. Camera ready pages with art are called mechanicals.

CAPS

The capital letters of any alphabet

CENTERED

Text that aligns centered along an imaginary vertical line between the left and right margins. See *flush left, flush right, justified.*

CHARACTER

Any single member of a typeface including punctuation marks, dashes, hyphens and symbols.

CLIP ART

Pre-drawn generic art available in books, floppy disk and optical media.

COLLATE

Gathering of document pages in a specified order.

COLUMN WIDTH

The horizontal measure of a text column.

CONDENSED

A style in a given font family that is narrower than other faces.

CONTINUOUS TONE

An image made up of a wide range of tones not broken up into dots and not restricted by a specified grid. Photographs are continuous tones, computer screen images are constructed of same-size picture elements.

CROP MARKS

Intersecting lines that mark, but do not touch the corners of a page.

CURSIVE

Type that imitates hand drawn letters such as brush lettering or handwriting.

DESCENDER

That part of a lower case letter that extends below the baseline. Letters g, j, p, q & y all have descenders.

DIACRITIC

A phonetic or vowel indicator such as an accent mark or a cedilla used in most languages except English. Español, français, ümlaut are words with diacritic marks.

DIGITAL TYPE

Type fonts stored in a form readable by computers. Digitized type is generally broken up as a series of dots or vertical lines. Replaced earlier photo-type composed of type images on film.

DINGBATS

Decorative characters within a font such as bullets, boxes, arrows, and Greek letters & numerals. Entire typefaces of dingbats are sometimes referred to as pi fonts.

DISPLAY TYPE

Type intended for use in headlines, product names and title text. It is usually markedly larger or bolder than the accompanying text.

DITHERING

Creating levels of gray on either a laser printer or a computer screen by combining the basic pixels or raster dots into larger sized dots giving the effect of a level of gray from a distance. Dithering can also be used to create an image closely resembling a half-tone.

DPI

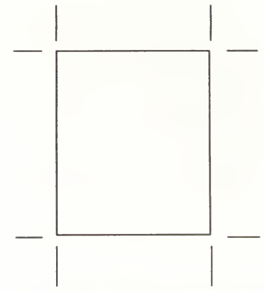
Dots Per Inch, a measure of a laser printer's basic resolution. Presently, the most widely used laser printers are 300 dpi machines.

DUMMY

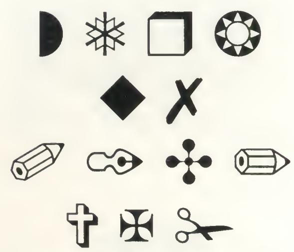
A model or mockup of a publication or document showing the placement of pages, headlines, text and pictures. Dummies also are used for distributing color pages, and showing folios for printing.

AMPERSAND
El signo "&" encontrado en todos los tipos, significa and, y; muy útil en los titulares y despliegues.
TRAZO ALTO
La porción de arriba de una letra minúscula que sobrepasa la altura de una "x" minúscula. Las letras b, **d**, y **f** son todas de trazo alto.
CANII
Un estándar de comunicación universalmente aceptado. Significa: Código Americano de Normas para Intercambio de Información, y fue diseñado para teletipos y restringido al alfabeto, los números y símbolos limitados y códigos de máquinas.
LINEA DE BASE
Una línea horizontal imaginaria en la cual descansan todas las letras mayúsculas y minúsculas. Las letras g, p, w así como la y se extienden bajo la línea de base.
MAPA BINARIO
Fotografías o letras producidas con una matriz de puntos negros, las cuales son todas del mismo tamaño. Entre más fino sea la matriz, mayor es la resolución.
NEGRITA
La versión más oscura de cualquier tipo. Regular, **Negrita.**
MEMORIA INTERMEDIA
Memoria principal ó disponible en una computadora o una impresora láser usado para almacer tipos que serán usados, documentos que están siendo impresos, rutinas o datos en uso.
LISTO PARA CAMARA
Ilustración o texto que está listo para ser impreso, fotocopiado, serigrafiado o aplicado en cualquier método de reproducción en uso. Las páginas de ilustraciones listos para cámara reciben el nombre de mecánicos.
ALTAS
Letras mayúsculas de cualquier alfabeto
MARGEN CENTRADO
Texto que se alínea al centro de líneas verticales imaginarias de los márgenes izquierdo y derecho. Vea margen izquierdo, margen derecho, justificado. Este es un pequeño bloque de texto centrado. Las letras se alínean hacia el centro. La separación de sílabas se determina por la anchura de la columna y si se requiere separación de sílabas.
CARACTER
Cualquier unidad de un tipo incluyendo signos de puntuación, guiónes y símbolos.
ILUSTRACION PARA RECORTAR
Ilustraciones genéricas creadas con anticipación; anteriormente disponibles en libros; hoy día, en discos magnéticos y medios ópticos.
INTERCALAR
La agrupación de páginas de documentos en un orden específico.
ANCHO DE COLUMNA
La medida horizontal de una columna de texto.

CONDENSADO
Un estilo de un tipo dado que es más estrecho que otros tipos.
TONO CONTINUO
Una imagen creada por una variedad de tonos que no está dividido en puntos y tampoco está restringido por una rejilla específica. Las fotografías con tono continuo, las imágenes en pantallas de computadoras se construyen de elementos fotográficos del mismo tamaño.
MARCAS PARA RECORTAR
Marcas de líneas intersectantes que no llegan al borde de la página.
CURSIVA
Tipos que imitan letras hechas manualmente tales como letras a pincel o caligrafía.
Freestyle Scrip es un ejemplo de un tipo de cursiva
TRAZO BAJO
La parte de una letra minúscula que se extiende bajo la línea de base. Las letras g, j, p, q así como y son tòdas de trazo bajo.
DIACRITICO
Un indicador de vocales o fonética tal como una marca ó acento gráfico usado en muchos idiomas excepto el inglés. Español, fraçais, ümlaut son palabras que llevan acento diacrítico.
TIPO DIGITAL
Tipos de letras almacenados en una forma legible por las computadoras. El tipo digital es generalmente separado en series de puntos o líneas verticales. Este ha reemplazado la fotocomposición de tipos e imágenes en telillas.
DINGBATS
Caracteres decorativos en un tipo, tales como puntos grandes, cuadritos, flechas, letras y números griegos. Tipos completos de dingbats a veces se les llama tipos de instrucción programada.
TIPO VISUAL
Tipo para usarse en titulares, nombres de productos y títulos de textos. Generalmente es más grande y más oscuro que el texto que le acompaña.
TRITURANDO
Creando niveles de gris ya sea en impresoras láser o en pantalla de computadoras mediante la combinación de pixels básicos o puntos pequeños y puntos más grandes creando un efecto de gris a distancia. Triturando también es una técnica que se puede emplear para crear una imagen que se asemeje a un semitono.
PPP
Puntos Por Pulgada, una medida de la resolución básica de impresoras láser. Actualmente, las impresoras láser de mayor uso tienen una resolución de 300 ppp. En inglés—DPI, *dots per inch.*
MAQUETA
Un modelo o imitación de una publicación o documento señalando la colocación de páginas, títulos, textos y fotografías. Las maquetas también se utilizan para la distribución de páginas a color, y la demostración de pliegos de papel para impresión.



CROP MARKS indicate where to cut or trim printed material.



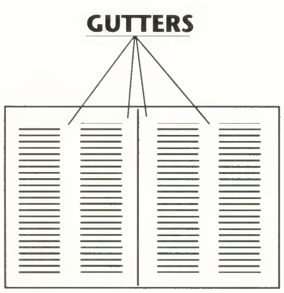
DINGBATS are special collections of graphic characters that can be inserted as text.

Mr. Watson—call Domino's.

EM-DASH, equals the width of a capital M.

Flush-left text aligns along the left and breaks on the right according to word length and hyphenation.

Flush-right text aligns along the right and breaks on the left according to word length and hyphenation.



Helvetica is a popular typeface used in headlines and advertising.

An **indent** is the space that a paragraph begins with. It may be indented in either direction according to the requirements of the text.

A **hanging indent** is an example of a negative indent. It is commonly used for numbering paragraphs of text.

EM SPACE
A horizontal space generally equal to the width of a capital M in any given type face for any given size.

EM DASH
A dash, usually equal to the width of an em-space.

EN SPACE
A fixed space, half the width of an em-space.

FLUSH LEFT
Text that aligns along the left margin, and makes ragged breaks to the right.

FLUSH RIGHT
Right-aligning text that breaks on the left side. (See *justify, centered)*

FONT
A collection of upper case and lower case letters, numbers, symbols and punctuation marks of a given size and typeface. Various sizes of a font make up a typeface.

FOOTER
Type recurring at the bottom of succeeding pages in a document to identify the document, paginate it, etc.

FOLIO
Type recurring at top or bottom of a document to to number the pages. Folios may also identify the document.

GALLEY
Formatted output from a typesetting machine used for proofing or for pasting up for camera ready art.

GRAY SCALE
Showing an image using a specified number of gray values, black & white values between 0 and 100%.

GRID
A basic x,y template used for aligning type and graphic objects in a document. The grid can be adjusted to permit fine or very coarse positioning of type & objects.

GUTTER
The white space between columns of text aligned vertically, and the space from binding to inside margin at the center of a multi-page document.

HALFTONE
Recreation of a continuous tone image using various sized dots (in earlier methods) to simulate the values of gray in the original. Computers and laser printers gather groups of same-sized dots together to simulate these various sized dots. (See dithering)

HEADER
Text appearing at the top of succeeding pages in a document, such as the recurring name Sports Section in a newspaper. Can also include date and page number or be specially modified to a given document. (See *footer, folio)*

HELVETICA
A sans serif typeface, widely used in Europe for text; used in the U.S. primarily for headlines or in technical documents.

HOT TYPE
Type created by casting liquid type metal into molds at high speed controlled by a special keyboard. Linotype machines are hot type systems but are almost extinct as a technology because of the speed and lower cost of photo-type and digital type.

H&J
The process of hyphenation and justification, manual in hot type and computerized in phototype and digital typesetting systems.

IMAGESETTER
A high resolution laser printing device that can output at 1000-3000 dots per inch on photographic paper or film.

INCREMENT
The distance between tick marks on a ruler using any given standard of measurement such as inches, picas, ciceros, millimeters.

INDENT
A space, usually to the right of the left margin, specifying the first character of a line. Indents placed to the left of a left margin are termed hanging indents.

INITIAL
The use of a very large, graphic character to begin the text at the start of a chapter, section or occasional paragraph. Initial caps are measured in depth. A 4-line initial cap is 4 lines of text in depth. Also called drop caps.

ITALIC
A slanted and somewhat cursive style of lettering for a given typeface. Italics were invented by 16th century printer Aldus (PageMaker) Manutius as a condensed typeface to produce his portable editions of the classics.

JUSTIFY
Aligning text to fill the space between left and right margins, flush on both sides. Unless text is composed of 35 or more characters per line, justified text looks awkward unless hyphenated.

KERN
To reduce or enlarge the space between **pairs** of letters within a word or **globally** between between the letters of whole blocks of text. Negative kerning removes space, positive kerning adds. Desktop publishing kerning units are usually fractions of an em-space, from 1/30th to 1/1000th depending on the software.

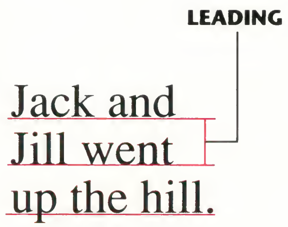
LANDSCAPE
A wide or horizontally aligned page or view. (See *portrait)*

ESPACIO EM (EN FORMA DE M)
Un espacio horizontal generalmente igual al ancho de una M mayúscula en cualquier tipo para cualquier tamaño.
GUION EM (EN FORMA DE M)
Un guión, igual al ancho de un espacio EM.
ESPACIO EN (EN FORMA DE N)
La mitad del ancho de un espacio EM.
MARGEN IZQUIERDO
Texto que se alínea hacia el margen izquierdo y crea un margen derecho irregular.
Este es un pequeño bloque de texto de margen izquierdo. Las letras se alínean hacia la izquierda separándose irregularmente en el margen derecho, donde la separación se determina por la medida de la columna y por la separación de palabras, de haber alguna.
MARGEN DERECHO
Texto que se alínea hacia la derecha y consiste de un margen izquierdo irregular. (Ver justificado, margen centrado).
Este es un pequeño bloque de texto de margen derecho. Las letras se alínean hacia la derecha separándose irregularmente en el margen izquierdo, donde la separación se determina por la medida de la columna y por la separación de palabras, de haber alguna.
FUENTE
Una colección de letras mayúsculas y minúsculas, números, símbolos y signos de puntuación de un tamaño y un tipo dado. Varios tamaños de una fuente hacen un tipo de letra.
PIE DE PAGINA
Texto que se repite en la parte de abajo de varias páginas en un documento para identificarlo, paginación, etc.
FOLIO
Texto que se repite en la parte superior o inferior de un documento para numerar las páginas. Los folios también podrían identificar un documento.
GALERA
Impresión formateado de una máquina tipográfica usado para prueba de galera, o empaste de ilustraciones listo para cámara.
ESCALA GRIS
La presentación de una imagen usando un número específico de valores grises, valores en negro y blanco entre 0 y 100%.
REJILLA
Un modelo básico de x, y usado para alinear texto y objetos gráficos en un documento. La rejilla puede ajustarse para permitir fijaciones exactas de texto y objectos.
MARGEN INTERIOR
El espacio en blanco entre las columnas de texto alineadas verticalmente, y el espacio desde el encuadernado hasta el margen interior al centro de un documento de muchas páginas.
SEMITONO
Re-creación de una imagen de tono continuo usando varios tamaños de puntos (en métodos antiguos) para simular los valores en gris del original. Las computadoras y las impresoras láser agrupan puntos del mismo tamaño para simular dichos tamaños de puntos. *(Ver Triturando)*
ENCABEZADO
Texto que aparece en la parte superior de todas las páginas de un documento, tales como los nombres repetitivos Sección de Deportes en un periódico. Este puede incluir además la fecha y el número de página o puede ser modificado especialmente para un documento dado. *(Ver Pie de Página, Folio)*
HELVETICA
Un tipo de letra sin línea de pie, usado mayormente para texto en Europa; usado en los Estados Unidos principalmente para titulares o en documentos técnicos.
TIPO FRESCO
Texto creado mediante la fundición de metal produciendo texto líquido en moldes a alta velocidad controlados por un teclado especial. Las máquinas de linotipo son sistemas de tipo fresco pero como tecnología está casi en desuso debido a la rapidez y bajo costo de los tipos digitales y fotográficos.
IMPRESORA DE IMAGENES
Una impresora láser de alta resolución que puede imprimir documentos de salida en 1,000 a 3,000 puntos por pulgada en papel fotográfico o filme.
INCREMENTO
La distancia entre líneas sólidas de una regla usando cualquier estándar de medición dado, tal como pulgadas, picas, ciceros, milímetros.
SANGRAR
Un espacio, usualmente en la derecha del margen izquierdo, especificando el primer carácter de una línea. Las sangrías puestas hacia la izquierda del margen izquierdo se conocen como sangrías pendientes.
INICIAL
El uso de un carácter gráfico grande para iniciar el texto en el comienzo de un capítulo, sección o párrafo ocasional. Las iniciales mayúsculas se miden en profundidad. Una inicial mayúscula de cuatro líneas mide cuatro líneas de texto en profundidad. También llamados mayúsculas pequeñas.
ITALICO
Un estilo de letra inclinado y un tanto cursivo de un tipo dado. Las *itálicas* fueron inventadas en el siglo XVI por el impresor Aldus (PageMaker) Manutius como un tipo condensado para producir sus ediciones clásicas portátiles.
JUSTIFICADO
Texto alineado para llenar el espacio entre los márgenes de izquierda y derecha. A menos de que el texto esté compuesto de 35 o más caracteres por línea, la justificación del texto sin separación de sílabas puede aparecer un tanto desagradable.
CONTROL DE ESPACIO
Para reducir o aumentar el espacio entre pares de letras en una palabra. El control de espacio negativo

Italics are a collection of slanted letters in a given typeface.

Justified text aligns on both left and right sides to give a square look to the copy. It is used in newspapers, textbooks and most technical documents. In some cases it is easier to read than flush left or flush right text.

Yo!
Yo!
KERNED letters have space added or removed



Reverse type is white on black or a light color on a darker color





LASER PRINTER
An electrostatic or xerographic printer that uses a laser to paint digital images and fonts on a print drum for printing on plain paper. *(See imagesetter)*

LAYOUT
The physical arrangement of text and graphics on a page.

LEADING
The vertical distance, in points, between succeeding lines of type, measured from baseline to baseline or from tops of caps to tops of caps depending on the system. Comes from the use of flat strips of lead used in metal type to separate the lines.

LETTERSPACE
Usually refers to globally kerning selected blocks of text to increase or decrease overall size of the block or to make the text more attractive and readable.

MONOFONT
A typeface in which each letter occupies the same horizontal space on a line, and space between characters is the same. *(See proportional font)*

OBJECT-ORIENTED
Graphics produced by using a specified vocabulary of primitive shapes, lines, boxes, circles, ovals, and arcs. The characteristics of the primitives can be adjusted to produce complex graphics, not restricted to individual dots. Object oriented graphics can be scaled, rotated, slanted, skewed and given variable tones and line weights.

OFFSET
The predominant commercial printing process on the planet using oil-based inks, ink-receptive images on a plate, and gum and water to seal the ink from the blank areas of the image. Also called lithography.

ORPHAN
Part of a word or a single word appearing at the top of a column, carrying over from the preceding column.

PCL
Hewlett-Packard's Printer Command Language used and supported by their laser printers.

PDL
Page Description Language, reference to several languages used for creating text and graphics within a printer.

PICA
Unit of measurement used by printers and typographers; 12 points or approximately 1/6th inch.

PIXEL
Basic unit or dot used to construct graphics on a video screen. Short for Picture Element

PHOTOTYPESETTER
A type generating machine that projects light through a negative film disk or strip onto photgraphic paper

POINT
Basic unit of typography, .0138 inches, approximately 1/72 inch.

PORTRAIT
A rectangular image aligned vertically, as opposed to Landscape aligned horizontally.

POSTSCRIPT
A page description language composed of mathematically defined curves, fill values, outlines and directions. PostScript describes graphics and fonts with the same algorithms.

PORPORTIONAL FONT
A font with varying size widths for letters. The letter **I** takes less width than the letter **M**. See *monofont*.

REVERSE TYPE
Light colored type set against a darker background; usually white type on black.

RULES
Straight lines whose widths are measured in points or fractions of a point.

RECTO
The right-hand side of a document that is intended to be viewed as left-reading and right-reading. Page numbering and titles change from left to right as well as gutter and outer margins. Formats that alternate in this way are called recto/verso format.

RESOLUTION
Roughly speaking, the clarity of a visual display whether on paper, on screen or film. Video resolution is measured in pixels per inch or total screen pixels available; print resolution from an output device in dots per inch; halftones in lines per inch.

SANS SERIF
Type faces without extensions at the ends of letters. Helvetica is a Sans serif font. See Serif.

SCANNER
A device that views an image on a page and constructs a digital map of the light and dark areas. High resolution scanners construct maps at 800-1200 dots per inch. Low resolution scanners work at 80-200 dpi.

SCREEN FONT
A selectable font of a particular size and weight intended to be viewed in a video display or printed by a low resolution dot matrix printer.

SERIF
The tails, wings and pedestals attached to classic type faces such as Times, Palatino, Goudy…

SMART QUOTES
A word processor that converts inch marks ["] at the beginning and end of a phrase to " open and "close quotes.

reduce espacio, el positivo agrega espacio. Las unidades de control de espacio de un sistema de Editorial de Escritorio son generalmente fracciones de un espacio EM, desde 1/30 hasta 1/1000 dependiendo del programa.

Letras con espacio controlado

PANORAMA

Una vista o página alineado a lo amplio y horizontal. *(Ver retrato)*

IMPRESORA LASER

Una impresora electrostática o xerográfica que usa un láser para pintar imágenes digitales y fuentes de letras en un cilindro de impresor para imprimir en papel normal. (Ver *Impresor de Imágenes)*

PRESENTACION

El arreglo físico de texto y gráficas en una página.

INTERLINEACION

La distancia vertical, en puntos, entre líneas consecutivas de texto, medido desde la línea de base hasta la línea de base o desde la parte superior de las mayúsculas hasta la parte superior de las mayúsculas subsiguientes dependiendo del sistema. Viene del uso de tiras sólidas de plomo usadas en los tipos de metal para separar las líneas.

ESPACIO ENTRE LETRAS

Generalmente se refiere al control de espacio global en bloques de textos para aumentar o reducir el tamaño del bloque o hacer que el texto sea más atractivo y más legible.

MONOFUENTE

Un tipo de letras en la cual cada letra ocupa el mismo espacio horizontal en una línea, y los espacios entre caracteres es el mismo.

ORIENTACION DE OBJETO

La producción de gráficas usando un vocabulario específico de formas primitivas, líneas, cuadrados, círculos, óvulos y arcos. Las características primitivas pueden ser ajustadas para producir gráficas complejas, libre de restricciones a puntos individuales. Las gráficas de orientación de objeto pueden cambiar de escala, pueden rotarse, inclinarse, distorcionarse y también agregárseles varios tonos en líneas y peso.

DESPLAZAMIENTO

El proceso de imprenta comercial predominante usando tintas a base de aceites, imágenes con recepción de tinta en una plancha; y goma y agua para sellar la tinta en las partes en blanco de la imagen. También llamado litografía.

HUERFANO

Parte de una palabra o una sola palabra apareciendo al comienzo de una columna, siendo una continuación de la columna anterior.

LCI

Lenguaje de Comando de Impresora de la Hewlett-Packard usado y mantenido por las impresoras láser de dicha empresa.

LDP

Lenguaje de Descripción de Página, referencia de varios idiomas usados para la creación de texto y gráficas dentro de una impresora.

PICA

Unidad de medida usado por las impresoras y los tipógrafos; 12 puntos o aproximadamente 1/6 de pulgada.

PIXEL

Unidad básica o punto usado para construir gráficas en una pantalla de video. Abreviatura de Elemento Fotográfico.

FOTOCOMPOSICION

Una máquina generadora de tipo que proyecta luz a través de un disco negativo de película o tira, en papel fotográfico.

PUNTO

Unidad básica de tipografía, .0138 pulgadas, aproximadamente 1/72 de pulgada.

RETRATO

Una imagen rectangular que se alínea verticalmente, contrario al Panorama que se alínea horizontalmente.

POSTSCRIPT™

Un lenguage de descripción de página compuesto de curvas matemáticas definidas, valores de relleno, esquemas y direcciones. PostScript describe las gráficas y las fuentes con el mismo algoritmo.

FUENTE PROPORCIONAL

Una fuente con tamaños variados de anchura de letras. La letra I es menos ancho que la letra M. (Ver Monofuente)

TIPO INVERSO

Tipo de color claro en fondo más oscuro; generalmente tipo blanco en fondo negro.

REGLAS

Líneas rectas cuyas medidas de ancho son en puntos o fracciones de un punto.

PAGINA IMPAR

La parte derecha de un documento que tiene la intención de que sea vista como de lectura de izquierda y derecha. La numeración de páginas y títulos cambian de izquierda a derecha al igual que el margen interior y las márgenes externas. Los formatos que se alternan de esta manera se llaman formatos recto/verso.

RESOLUCION

En términos generales, la claridad de un despliegue visual ya sea en papel, en pantalla o en película. La resolución de video es medido en pixels por pulgadas o pixels totales de pantalla disponibles; la resolución de impresión de un dispositivo de salida de datos se mide en puntos por pulgada; los semitonos en líneas por pulgada.

SIN LINEA DE PIE

Tipos sin extensiones en los extremos de las letras. Helvetica es una fuenta sin línea de pie. (Ver Línea de Pie)

ANALIZADOR

Un dispositivo que reconoce una imagen en una página y construye un mapa digital de los puntos claros y oscuros. Analizadores de alta resolución construyen mapas a 800 - 1,200 puntos por pulgada. Analizadores de baja resolución operan en 80 - 200 ppp.

"Ha!"

SMART QUOTES (below) convert inch marks (above) to typographic quotation marks.

“Ha!”

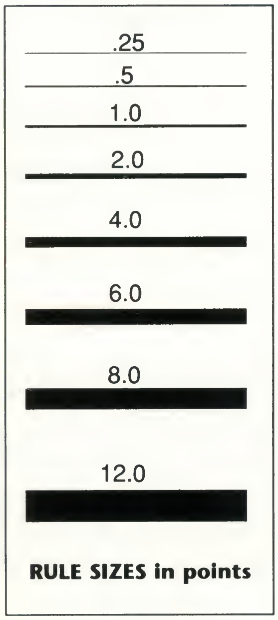
Art$_4$

SUBSCRIPT

Art^4

SUPERSCRIPT

LINE WEIGHTS



SUBSCRIPT

Type that is generally smaller than regular text placed at or below the baseline as in a foot note reference.

SUPERSCRIPT

Type of a smaller size than text placed at or near the cap height for special references.

QUICKDRAW

A graphics "vocabulary" of ROM routines that the Macintosh uses to create images, windows, icons, buttons and primitive shapes. Like PostScript, it can be used as a page description language (PDL). It is not as flexible and cannot be read by a PostScript printer unless it is first interpreted into PostScript.

TIFF

Tagged Image File Format is a variable resolution bit map developed to store high resolution images, typically from scanning devices, for import to editing programs, page makeup software and graphics programs. A variation called Compressed TIFF takes up less space on disk but is slower in transporting between applications.

.TIF (dot tif)

A special TIFF format compatible with MS-DOS computers. .Tif can be translated from TIFF.

THUMBNAIL

A miniaturized version of a page that shows basic layout. Used for laying out the page matrix in a publication.

TONER

Plastic-based powdered dye used in copying machines and laser printers as the image transfer part of the Xerographic system. Toner is usually black but can be almost any color. Color copiers use 4 toners.

TYPE

Refers to the text and or headline constituents of a document, as opposed to art and graphics. Includes numbers, letters, symbols and any an all characters.

TYPEFACE

A collection of upper and lowercase letters, numbers and symbols of a particular style such as Helvetica Bold, Garamond Italic, Avant Garde Demi, etc. The various Helveticas, Garamonds and Avant Gardes make up type families.

VECTOR GRAPHICS

A system of producing graphics using a limited number of "primitive" objects which can be resized, scaled, given color and tonal value and joined together to make complex graphics. Each primitive is an object such as a rectangle, oval, or line. *(See object-oriented graphics.)*

VERSO

The left-hand page of a left/right page format. See recto.

WEIGHT

The thickness of a rule or other line-based graphic, usually measured in points. Approximately 72 points to the inch. Can also refer to the style of a typeface such as Bold, Extra Bold, Regular, Light.

WHITE SPACE

Literally the white areas on a page which contribute to the overall composition. More or larger type implies less white space.

WIDOW

A single word occupying the last line of a paragraph. To be avoided. *See orphan.*

WRAPAROUND

On a computer display, the ability of text to break at the end of a line and carry over to the next line without a manual return. In text, surrounding an object with lines of text at a fixed distance. The object may be regular or irregular.

XEROGRAPHY

The electrostatic process invented by Xerox in which an image is reflected onto an electrically charged drum which is then coated with similarly charged toner. The toner adheres to those parts of the drum where the image was reflected. Paper is rolled across the drum picking up a copy of the image and then passed through high temperature fusing rollers which melt the plastic based toner (see toner) and fuse it to the paper.

FUENTE DE PANTALLA
Una fuente seleccionada de tamaño y peso particular diseñado para ser reconocido en un despliegue de video, o impreso por una impresora matriz de baja resolución.
LINEA DE PIE
Los extremos, las alas y pedestales agregados a tipos clásicos tales como Times, Palatino, Goudy…
CITAS INGENIOSAS
Un procesador de palabras que convierte los símbolos de pulgadas al comienzo y al final de una frase en la "apertura" y "clausura de una cita."
SUBSCRITO
Tipo que es generalmente más pequeño que el texto regular que va bajo la línea de base tal como en una referencia de nota de pie de página. Subscrito se usa para notas de pie de página
SOBRESCRITO
Tipo de un tamaño menor del texto regular que va cerca de la altura de las mayúsculas y se usa para referencias especiales.
QUICKDRAW
Un "vocabulario" gráfico de rutinas de MLS (Memoria de Lectura Solamente) que usa la Macintosh para generar imágenes, ventanas, iconos, botones y formas primitivas. Así como PostScript, puede ser usado como un lenguaje de descripción de página (LDP). No es tan flexible y no puede ser leido por un impresor de PostScript, a menos de que sea interpretado primero en PostScript.
FAIPE
Formato de Archivo de Imagen Provisto de Etiqueta es un mapa binario de resolución variada desarrollado para almacenar imágenes de alta resolución, generalmente procedentes de dispositivos analizadores, para importar a programas editoriales, programas de construcción de página y programas gráficos. Una variación llamada FAIPE Comprimido usa menos espacio en los discos pero es más lento en la transportación entre programas.
.FAIPE (faipe de punto)
Un formato especial de FAIPE compatible con computadoras MS-DOS. .Faipe puede ser traducido desde FAIPE.
ARTICULO REDUCIDO
Una versión de una página en miniatura que destaca la presentación básica. Usado para situar la matriz de una página en una publicación.
TONER
Un tinte en polvo en base a plástico usado en máquinas fotocopiadoras e impresoras láser al transferir la imagen en parte en un sistema xerográfico. El toner generalmente es negro, pero puede ser de cualquier color. Las fotocopiadoras a color usan cuatro toners.
TIPO
Se refiere a la constitución del texto o titulares de un documento, contrario al arte y las gráficas. Incluye números, letras, símbolos y cualquier y todo carácter.
TIPO DE LETRA
Una colección de letras en mayúscula y minúscula, números y símbolos de un estilo particular como Helvetica Negrita, Garamond Itálica, Avant Garde Demi, etc. La variedad de Helveticas, Garamonds y Avant Gardes hacen familias de tipos de letras.
VECTOGRAFO
Un sistema de producción de gráficas usando un número limitado de objetos "primitivos" los cuales pueden cambiar en forma, tamaño, escala, color y valor tonal y agrupado para ser gráficas complejas. Cada primitivo es un objeto tal como un rectángulo, un óvulo, o una línea. (Vea Gráficas de Orientación de Objetos)
PAGINA PAR
La página izquierda de un formato de página de izquierda/derecha. (Vea Página Impar)
PESO
El grosor de una línea o cualquier otra gráfica basado en líneas, generalmente medido en puntos. Aproximadamente 72 puntos por pulgada. También puede referirse al tipo de letra tal como Negrita, Negrita Extra, Regular, Claro.
ESPACIO EN BLANCO
Literalmente las áreas en blanco de una página las cuales contribuyen a la composición total. Más o mayor tipo implica menos espacio en blanco.
VIUDA
Una sóla palabra que ocupa la última línea de un párrafo. Debe ser evitado. (Vea huérfano)
ENVOLTURA
En un despliegue de computadora, es la habilidad de separar texto al final de una línea y llevar el texto restante sin retroceder manualmente. Dentro del texto, envolviendo un objeto con líneas de texto a una distancia fija. El objeto puede ser regular o irregular.
XEROGRAFIA
El proceso electroestático inventado por la empresa Xerox en la cual una imagen se refleja en un cilindro cargado de electricidad a la cual se le agrega una capa similar cargada de toner. El toner se adhiere en las partes del cilindro donde la imagen fue reflejada. El papel es rodado alrededor del cilindro recogiendo una copia de la imagen y luego pasado por alta temperatura fundiendo los rodillos que derriten el toner de base plástico (ver Toner) y fundiéndolo en el papel.

CALENDAR OF EVENTS

3/28/90 - 3/29/90 **InterCom**
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Hyatt Regency Downtown
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(305) 446-5150

10/9 - 10/12 **INFO International Information Management Expo**
Computers, peripherals, systems and office equipment - 350 exhibits
Jacob K. Javits Convention Center
New York, NY
(203) 964-0000

10/10 - 10/13 **Info '89 Conference**
Systems integration; high & low level systems

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10/14 - 10/16 **Composition**
Electronic publishing, supplies & services
Fairmont Hotel
Chicago, IL
(703) 841-8165

10/15 - 10/18 **Graph Expo**
Equipment, supplies & services for printers & graphic arts professionals
McCormick Place
Chicago, IL
(703) 264-7200

10/17 - 10/19 **NorthCon**
OEM products, minis & micros, peripherals, printers, SW; 450 exhibits
Portland Coliseum
Portland, OR
(213) 772-2965

10/18 - 10/21 **Computer Dealers & Lessors Association Convention**
Data processing equipment, supplies & services
Century Plaza
Los Angeles, California
(202) 333-0102

10/25 - 10/27 **CaribeCom '89**
Telecommunications, computer systems
Caribe Hilton
San Juan, Puerto Rico
(305) 446-5150

10/25 - 11/05 **XXVII International Trade Fair of Santiago, Chile**
General technology and industrial show with U.S. pavilion & specialized areas
Santiago, Chile
(011) 562-7101-33

10/26 **Dialog Information Services Free Seminar 9AM, 12PM**
Using Dialog On-line databases
Hotel Sofitel
Miami, FL
(800) 321-6388

10/26 - 10/28 **Printing Expo**
Printing & graphic arts equipment
Convention Center
Las Vegas, NV
(714) 250-8060

10/28 - 10/29 **InterCom**
Telecommunications, computers
Holiday Inn Crown Plaza Hotel
Santiago, Chile
(305) 446-5150

10/28 - 10/29 **ChileCom '89**
Telecommunications
Holiday Inn Crown Plaza Hotel
Santiago, Chile"
(305) 446-5150

10/30 - 11/3 **The Folio Show**
Equipment, supplies & services for magazine & book publishing
New York Hilton
New York, NY
(203) 358-9900

11/12 - 11/15 **Computer Graphics**
Computer graphics hardware & SW
Western Bonaventure Hotel
Los Angeles, CA
(703) 698-9600

11/13 - 11/17 **Comdex/Fall '89** and **MacDex '89**
PC and Mac retail dealers show running concurrently; 1500 exhibits - Convention Center
Las Vegas, NV
(703) 685-0600

11/14 - 11/16 **WesCon**
OEM products: minis, micros, peripherals, printers & SW
Moscone Convention Center
San Francisco, CA
(213) 772-2965

11/28 - 11/30 **Comexpo/Monterrey**
Computers, telecommunications, peripherals
Holiday Inn
Monterrey, Mexico
(703) 685-0600

11/28 - 12/01 **Miami Conference on the Caribbean**
CBI II, International trade
Intercontinental Hotel
Miami, FL
(202) 466-7464

1/19 - 1/21 **Graphics of the Americas**
Stephen Muss Convention Center
Miami Beach, Florida
(305) 673-7311

10/16 - 10/20 **International Systems**
Munich
(49-) 89—51-070

10/21 - 10/25 **SMPTE**
Motion Pictures and Television
Los Angeles, CA
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10/23 - 10/25 **FCC - Federal Computer Conference**
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